Five-Year Review Report

Second Five-Year Review Report

for the

Long Prairie Groundwater Contamination Superfund Site

Long Prairie
Todd County, Minnesota

September 2007

PREPARED BY:

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In Consultation with

U.S. Environmental Protection Agency
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List of Acronyms

ACLs	Alternate concentration levels
ARARs	Applicable or Relevant and Appropriate Requirements
BGS	Below Ground Surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CWA	Clean Water Act
DAA	Designated Advisory Area
DWSMA	Drinking Water Supply Management Area
FS	Feasibility Study
GAC	Granulated Activated Carbon
HRL	Health Risk Level
IC	Institutional Control
MAC	Metropolitan Airports Commission
MCLs	Maximum Contaminant Levels
MDH	Minnesota Department of Health
MNA	Monitored Natural Attenuation
MDNR	Minnesota Department of Natural Resources
MPCA	Minnesota Pollution Control Agency
MSCA	Multi-Site Cooperative Agreement
MSL	Mean Sea Level
NCP	National Oil and Hazardous Substances Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PCE	Perchloroethylene or Tetrachloroethylene
PCOR	Preliminary Close Out Report
PLP	Permanent List of Priorities
PRP	Potentially Responsible Party
RA	Remedial Actions
RAL	Recommended Allowable Limits
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
ROD	Record of Decision
SWCA	Special Well Construction Area
TBC	To Be Considered
TCE	Trichloroethylene
TCL	Target Cleanup Level
TMDL	Total Maximum Daily Load
USEPA	United States Environmental Protection Agency
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile Organic Chemical
WHPA	Well Head Protection Area
μg/L	Micrograms per liter (parts per billion)

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Executive Summary

The remedy for the Long Prairie Groundwater Contamination Superfund Site ("the Site") located in Long Prairie, Todd County, Minnesota, included the following:

Operable Unit 1:

- Installation of groundwater extraction wells in the contamination plume;
- Treatment of contaminated groundwater; and
- Discharge treated groundwater to the Long Prairie River.

Operable Unit 2:

- Treat contaminated soil with an active soil venting system.

Operable Unit 3:

- Provide an alternative water supply including water main extensions and service connections to the municipal water supply for those residences in the health advisory areas or with a threatened water supply.

The triggering event for the completion of this five-year review is the first five-year review, completed September 30, 2002.

The groundwater extraction and treatment system is functioning as designed. From May 1996 through June 2007, approximately 1.2 billion gallons of contaminated groundwater have been pumped through the system, treated with carbon adsorption, and discharged to the Long Prairie River. Contaminant concentrations in the groundwater have declined significantly since the groundwater extraction and treatment system was installed in 1996. However, the decline in contaminants levels has slowed since the last five-year review in September 30, 2002. Specifically, the decline in tetrachloroethylene (PCE) concentrations has been minimal.

The soil venting system operated full time from 1997 through 1999 and was removed in 2000 when the soil RAOs were achieved.

The status and pumping rates of high capacity irrigation wells and city wells were investigated as part of the groundwater modeling effort. The effect on plume migration resulting from pumping these wells also was modeled. At current pumping rates and durations, pumping of the high capacity irrigation wells and the city wells does not significantly affect plume migration.

In an effort to optimize groundwater remediation efforts, MPCA initiated an *In-Situ* Anaerobic Bioremediation pilot test in March 2007. The pilot test was designed to

investigate the effects of adding fermentable substrates into an impacted groundwater plume and to monitor the resulting effects on VOC concentrations and a variety of other subsurface chemical changes affected by the dechlorination process. Evaluation of the pilot test data is ongoing, but initial results show a decrease in PCE levels. A pilot test summary report is expected in October 2007.

Private well usage in the contaminated area is still a concern. At the present time, only one known resident still uses a private well for drinking water and refuses to connect to the municipal water supply. The PCE concentration in this well is below the MCL and continues to decrease. Also, one business could not be hooked up to municipal water because of building foundation problems. This business uses bottled water for drinking and well water for toilets and hand-washing. Two other businesses use private wells for non-potable needs. A few other residents use private well water for irrigation purposes.

OU1 (Groundwater)

The remedy for OU1 currently protects human health and the environment because the groundwater extraction and treatment system has resulted in containment of the groundwater plume at the Site and a decline in contaminant concentrations. Since contaminant concentration declines have been minimal since the last five-year review in 2002, MPCA initiated an In-Situ Anaerobic Bioremediation pilot test in May 2007. Results thus far show a decrease in PCE levels. A report on the pilot test is expected in October 2007. Additionally, although not required by the ROD, a Health Advisory Area was identified by the MDH in 1983 and an Extended Health Advisory Area was identified by MDH in 1994 (residents are informed and apprised of the state of the Health Advisory on a continuing basis via public notices and in the five-year review process). Also, in 2007 MDH designated a Special Well Construction Area (SWCA) which provides for controls on the drilling or alteration of public and private water supply wells, and monitoring wells in an area where groundwater contamination has, or may, result in risks to the public health.

Long-term protectiveness requires compliance with effective ICs until Site cleanup goals are achieved. Compliance with effective ICs will be ensured by implementing, maintaining, and monitoring effective ICs in conjunction with the Site remedy components. To that end, the following actions need to be taken. An IC Plan will be developed to incorporate the results of IC evaluation activities; the adequacy of the existing ICs will be evaluated to assure they are functioning as needed and, if necessary, additional IC activities will be planned, such as implementing additional or corrective measures, along with strategies to ensure long-term stewardship of the Site that includes maintaining, monitoring, and certifying the ICs at the Site.

OU2 (Soils)

The remedy for OU2 currently protects human health and the environment because the soil venting system operated full time from 1997 through 1999 and was removed in

2000 when the soil Remedial Action Objectives were met. Because the contamination concentration in the soils was reduced to ROD cleanup levels, this portion of the remedy offers long-term protection from contaminant leaching to the aquifer and from human health exposure to the PCE in the source area.

OU3 (Alternate Water Supply)

The remedy for OU3 is expected to be or is protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. This has been accomplished by offering and making available an alternate water supply to all private well users in the groundwater contamination area.

Site-Wide

Site-wide OU1 and OU2 construction was completed on August 14, 1997; OU3 construction was completed in May 1997. Because the remedial actions at all OUs are protective, the Site is currently protective of human health and the environment. Long-term protectiveness requires compliance with effective ICs. Compliance with effective ICs will be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name *(from WasteLAN)*: Long Prairie Groundwater Contamination Superfund Site		
EPA ID *(from WasteLAN)*: MND980904072		
Region: 5	**State: MN**	**City/County: Long Prairie/Todd County**
SITE STATUS		
NPL status: Final		
Remediation status: Construction Completed		
Multiple OUs?* Yes	**Construction completion date: 9/19/1997**	
Has site been put into reuse? Yes		
REVIEW STATUS		
Lead agency: Minnesota Pollution Control Agency		
Author name: Nile Fellows, Barb Gnabasik, Sheila Sullivan		
Author title: Project Leader, Hydrogeologist, EPA Remedial Project Manager	**Author affiliation: MPCA, MPCA, US EPA**	
Review period: March 13, 2007 through September 2007**		
Date(s) of site inspection: 6/26/07		
Type of review: Policy		
Review number: 2 (second)		
Triggering action: Previous Five-Year Review Report		
Triggering action date *(from WasteLAN)*: September 30, 2002		
Due date *(five years after triggering action date)*: September 30, 2007		

* ["OU" refers to operable unit.]
** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

Five-Year Review Summary Form

Issues:

1. Compliance with effective ICs needs to be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.

Recommendations and Follow-up Actions:

1. An IC Plan will be developed. The Plan will incorporate the results of the evaluation activities and plan for additional IC activities as needed.

Protectiveness Statement(s):

The remedy for OU1 (groundwater restoration) currently protects human health and the environment because the groundwater extraction and treatment system has resulted in containment of the groundwater plume at the Site and a decline in contaminant concentrations. Since contaminant concentration declines have been minimal since the last five-year review in 2002, MPCA initiated an In-Situ Anaerobic Bioremediation pilot test in May 2007. Results thus far show a decrease in PCE. A report on the pilot test is expected in October 2007. Additionally, although not required by the ROD, a Health Advisory Area was identified by the MDH in 1983 and an Extended Health Advisory Area was identified by MDH in 1994 (residents are informed and apprised of the status of the Health Advisory on a continuing basis via public notices and in the five-year review process). Also, in 2007 MDH designated a SWCA which provides for controls on the drilling or alteration of public and private water supply wells, and monitoring wells in an area where groundwater contamination has, or may, result in risks to the public health.

Long-term protectiveness requires compliance with effective ICs. To that end, the following actions need to be taken: An IC Plan will be developed to incorporate the results of IC evaluation activities; the adequacy of the existing ICs will be evaluated to assure they are functioning as needed; and, if necessary, planning for additional IC activities, such as implementing additional or corrective measures along with developing a strategy to ensure long-term stewardship of the Site that includes maintaining, monitoring, and certifying the ICs at the Site.

The remedy for OU2 (soil remediation) currently protects human health and the environment because the soil venting system operated full time from 1997 through 1999 and was removed in 2000 when the soil Remedial Action Objectives were met. Because the contamination concentration in the soils was reduced to ROD cleanup levels, this portion of the remedy offers long-term protection from contaminant leaching to the aquifer and from human health exposure to the PCE in the source area.

The remedy for OU3 (alternate water supply) is protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. This has been accomplished by offering an alternate water supply to all private wells in the groundwater contamination area. One resident has refused hook up to the municipal supply and is voluntarily exposed to contaminants that have been below drinking water standards since 2006. Contaminant concentrations have been decreasing in samples from the water supply well.

Because the remedial actions at all OUs are protective, the Site is currently protective of human health and the environment. Long-term protectiveness requires compliance with effective ICs. Compliance with

Five-Year Review Summary Form (continued)

effective ICs will be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.

Other Comments: None

Date of last Regional review of Human Exposure Indicator (from CERCLIS): 09/28/2006
Human Exposure Survey Status (from CERCLIS): Current Human Exposure Controlled
Date of last Regional Review of Groundwater Migration Indicator (from CERCLIS): 05/31/2007
Groundwater Migration Survey Status (from CERCLIS): Contaminated Groundwater Migration Under Control
Ready for Reuse Determination Status (from CERCLIS): Not Available

FIVE-YEAR REVIEW REPORT

Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Todd County, Minnesota

I. INTRODUCTION

The purpose of the five-year review is to determine whether the remedy at the Long Prairie Groundwater Contamination Site is protective of human health and the environment. The methods, findings and conclusions of reviews are documented in five-year review reports. In addition, five-year review reports identify issues during the review, if any, and recommendations to address them.

The Minnesota Pollution Control Agency (MPCA), in cooperation with the U.S. EPA, Region V, is preparing this five-year review report pursuant to CERCLA Section 121 and the National Contingency Plan (NCP). CERCLA Section 121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to ensure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgment of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews, and any actions taken as a result of such reviews.*

This requirement is interpreted further in the NCP; 40 CFR Section 300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action.*

The MPCA in consultation with U.S. EPA has conducted a five-year review of the remedial action implemented at the Long Prairie Groundwater Contamination Site in Long Prairie, Minnesota. This policy review was conducted from March 2007 through September 2007 with the assistance of MPCA contractor, Terracon Consultants, Inc. of White Bear Lake, Minnesota. This report documents the results of the review.

This is the second five-year review completed for the Long Prairie Groundwater Contamination Site. The triggering action for this five-year review is the date of the last signed five-year review, as shown in EPA's CERCLIS database: September 30, 2002. This policy five-year review is necessary because health-based cleanup levels have not yet been met for the site. Once site cleanup levels are met, there will be no hazardous substances on site above levels that prevent unlimited use and unrestricted exposure (UU/UE) at the Site, and a five-year review will no longer be necessary.

II. SITE CHRONOLOGY

Table 1 - Chronology of Site Events

Date	Event
1949 –1984	Dry cleaning facility operated at the Site
1983	MDH discovers PCE contamination in two of the five Long Prairie municipal water supply wells
1983	MDH issues a Health Advisory for residential wells in a 15-block area of city; in 1994 the advisory was expanded to include an additional 5-block area
1983	Bottled water provided to affected residents
October 1983	State Requests for Information
1984	GAC treatment system installed for the two affected municipal wells
1984	Federal HUD grant for new municipal well, water mains, and water treatment plant improvements
September 1984	Cooperative Agreement with multiple amendments
October 1984	Added to MPCA's PLP
November 15, 1984	Proposed NPL listing
April 24, 1985	State Depositions
May 25, 1985	State Notice to PRPs to do RI/FS
June 10, 1986	NPL listing
April 4, 1988	RI/FS Study complete
April to May, 1988	State/EPA Notice to PRPs to reimburse past, future costs
June 27, 1988	ROD signed. ROD objectives were to provide safe water supply for current and future users of the Long Prairie aquifer and prevent the spread of contaminated groundwater to unaffected wells
September 19, 1988	Remedial Design start
April 11, 1991	Remedial Design complete
April 11, 1991	Remedial Action start

Date	Event
June 20, 1991	First ESD signed to change the treatment of recovered groundwater from air-stripping to GAC
May 31, 1991	Second ESD signed to clarify RAOs and cleanup goals
1994	Extended Health Advisory Area established
January 26, 1995	Construction OU1, subsurface OU2 start
January 26, 1995	Construction OU2, above ground start
June 1996	Superfund State Contract signed
November 1996	Construction OU3, municipal water hookup start
February 1997	Interim RA Close-Out Report approved
April 23, 1997	Construction OU2, above ground complete
May 1997	Construction OU3, municipal water hookup complete
August 14, 1997	Construction OU1, subsurface OU2 complete
September 19, 1997	Construction complete date
September 1997–September 2007	Ongoing Operation and Maintenance efforts
July 1998	Well Receptor Survey completed by MPCA
March 2000	OU2, Soil Vapor Extraction Demobilization Complete
August 2000	OU2, Partial Remedial Action Completion Report
October 2000	Construction Documentation Report, Conveyance System
December 13, 2001	SVE system closure letter by MPCA
July 31, 2002	1st Five-Year Review Site Inspection
September 30, 2002	1st Five-Year Review completed
2002	The city of Long Prairie provided a "sewer only" list of residents
June 2003	Receptor Survey Submitted by MPCA Contractor
July 27, 2005	MPCA and MDH signed a Memorandum of Agreement (MOA) for the SWCA
January 1, 2007	Special Well Construction Area becomes effective
2003-2007	Periodic residential well sampling and verification
March 2007	Pilot study for injection of organic substrate (EOS®) to aquifer
June 26, 2007	2nd Five-Year Review Site Inspection conducted
September 2007	2nd Five-Year Review report signed

III. BACKGROUND

Physical Characteristics

The Long Prairie Groundwater Contamination Superfund Site ("the Site") includes a 0.16 acre (about 7,000 square feet) area of soil that was contaminated by tetrachloroethylene (PCE), also known as perchloroethylene. The PCE-contaminated soil was located in back of a now defunct dry-cleaning facility located at 243 Central Street in the commercial district of Long Prairie, Minnesota. The contaminated soil area served as a continuous source of contamination to the groundwater aquifers underlying the city of Long Prairie and the surrounding region. The city is situated at an elevation of approximately 1,300 feet above Mean Sea Level (MSL).

The hydrogeology underlying the city consists of an upper and lower sand aquifer, separated by a clay till aquitard. The upper and lower sand aquifers average 25 and 20 feet in thickness, respectively. The clay aquitard decreases in thickness in a westward direction towards the Long Prairie River and gradually pinches out at a point 440 feet east of the River. The aquitard is completely absent in the river valley, where the two sand aquifers are hydraulically connected. In the center of the river valley, the combined sand aquifers are about 70 feet thick (see Figure 6). The sand aquifers are recharged by precipitation and inflow from the Long Prairie River. Generally, groundwater flow within both aquifers is to the north-northeast, unless locally influenced by pumping. Groundwater not withdrawn via production or recovery wells eventually discharges to the Long Prairie River.

The dry-cleaning facility responsible for the PCE releases was located above the edge of the till aquitard. As a result of the contamination emanating from the facility, the contaminant plumes spread within both the upper and lower sand aquifers beneath the city's commercial district and under an older residential area as it moved toward the Long Prairie River. The Long Prairie River flows through the city and passes within about 500 feet of the contaminant plume.

Land and Resource Use

The city of Long Prairie is the county seat of Todd County, and is located about 120 miles northwest of Minneapolis/ St. Paul in central Minnesota (Figure 1). Long Prairie is a small farming community. Land use in the vicinity of the Site includes light industrial and commercial establishments in several areas. These areas include downtown Long Prairie; along Highway 71 on the west side of the Long Prairie River; between Sixth and Seventh Streets NE; and the area northwest of Ninth Street NE. The remainder of the city is mostly residential properties. Land use outside the city is agricultural and is not expected to change significantly in the future. The city has had some more recent success in attracting small industries, such as a rendering plant, a food manufacturing plant, and an aluminum milling facility. The city obtains its potable water supply from

the groundwater of the Long Prairie sand aquifers underlying the city and the surrounding region.

The municipal water supply system currently consists of five wells. City wells CW-3 and CW-6 are located slightly east of the contaminated groundwater plume and are screened within the deeper sand aquifer. An additional three city wells, CW-7, CW-8, and CW-9 are located south of Long Prairie (Figure 2). These five wells serve a population of slightly less than 3,000 persons, including over 1,100 residential, industrial and commercial accounts.

The municipal supply also has a one-million-gallon water tower built in 2002. Over the past five years, the city has installed over 25 blocks of new water and sanitary sewer lines. The GAC filter water treatment plant, built in 1985, has a 1,200 gallon-per-minute (gpm) capacity. The city water demand has increased significantly over the past 22 years requiring the plant to run as long as 20 hours per day. The age and demand on the plant has led the city to perform a feasibility study regarding the cost of rehabilitating the plant versus building a new plant.

At the present time, only one known resident still uses a private well for drinking water and refuses to connect to the municipal water supply. Also, one business could not be hooked up to city water because of building foundation problems. This business uses bottled water for drinking and well water for toilets and hand-washing. Two other businesses use private wells for non potable needs. A few other residents use private well water for irrigation purposes.

History of Contamination

The source of groundwater contamination was a former dry-cleaning facility located at 243 Central Street in the commercial area of Long Prairie. The facility changed ownership three times during the course of its operation from about 1949 to mid-1984. According to supply records, during the time period from 1978 to 1984, about 2,200 gallons of the dry-cleaning solvent, tetrachloroethylene (also known as perchloroethylene or PCE), was used in the dry-cleaning operation. PCE waste was subsequently disposed in a makeshift french drain, i.e., a barrel with holes in the bottom that was sunken in the ground up to its rim, in the back lot of the facility. Since 1983, an old, unused incinerator of unknown purpose also exists near the original location of the french drain.

The contamination was discovered during a national initiative by EPA in conjunction with the State Public Water Supply agencies, i.e., the Minnesota Department of Health (MDH), to investigate the occurrence of synthetic volatile organic chemicals in public water supplies supplied by groundwater sources. During this initiative, two of the five city groundwater supply wells (CW-4 and CW-5) were found to contain PCE, trichloroethylene (TCE) and *cis*-1,2-dichloroethylene (*cis*-1,2-DCE). Further, eight of the 21 residential wells sampled around these wells were also contaminated with PCE.

Because these chemicals, which were known or suspected carcinogens, exceeded EPA Maximum Contaminant Levels (MCLs) and other risk-based levels, the MDH recommended that the city wells be removed from service.

Initial Response

A drinking water Health Advisory was issued by MDH in 1983 for the 15-block area of northeastern Long Prairie, and the MPCA issued a Determination of Emergency in 1983 to provide drinking water for residents in the Health Advisory area. At that time, about 350 private residential wells in the area were in use. An activated carbon treatment system was subsequently installed on CW-4 and CW-5 from June to October 1984 to eliminate the need for providing bottled drinking water. In May 1984, a Housing and Urban Development (HUD) grant was awarded to the city to install a new municipal supply well (CW-6). The city retired the contaminated wells CW-4 and CW-5 at that time. The grant also funded the installation of water transmission lines and improvements to the municipal water treatment plant. In addition to the 16 existing monitoring wells installed during earlier Site activities, another 15 monitoring wells were installed at eight locations in Long Prairie in February 1984. The monitoring results from these wells and other private wells determined that the plume length extended 2,100 feet northeast from the source area and 1,000 feet across. The contamination appeared to extend throughout the saturated depth of both sand aquifers to a depth of approximately 55 feet below ground surface (bgs). Because the enforcement activities conducted from 1983 to 1988 did not result in any viable Potentially Responsible Parties (PRPs) to undertake the necessary response actions, a Multi-Site Cooperative Agreement (MSCA) was signed on September 4, 1984, between MPCA and EPA, to begin a Remedial Investigation and Feasibility Study (RI/FS) at the Site. An Extended Health Advisory area was established in 1994 when additional MPCA testing outside of the original advisory area found more residential wells contaminated with PCE (Figure 3).

Basis for Taking Action

Hazardous substances that have been detected in each medium at the Site included:

Groundwater
- Tetrachloroethylene (PCE)
- Trichloroethylene (TCE)
- *cis*-1,2-Dichloroethylene (*cis*-1,2-DCE)
- Vinyl Chloride

Soil
PCE
TCE
trans-1,2-Dichloroethylene (*trans*-1,2-DCE)
1,1,1-Trichloroethane (TCA)

In 1983, groundwater contaminated with PCE, TCE, *cis*-1,2-DCE and a small amount of vinyl chloride, was discovered in two of Long Prairie's municipal wells as a result of the volatile organic chemical (VOC) sampling initiative. The elongated plume appeared to extend throughout the saturated depth of both sand aquifers underneath the city and contained an estimated seven-million gallons of contaminated groundwater. Further investigation of the soils behind the former dry-cleaning facility identified high concentrations of PCE, TCE, *trans*-1,2-DCE, and TCA. The Toxic Characteristic Leaching Potential (TCLP) of these contaminated soils indicated that they would act as a continuous source of groundwater contamination if not remediated.

The actual and potential threats to human health resulted from potable water use. Exposure to potable water included ingestion, dermal contact and inhalation pathways. The exposure pathway presenting the highest carcinogenic human health risk was the ingestion of contaminated groundwater. Contaminated soils also posed a risk due to dermal contact. EPA proposed the Site to the National Priorities List (NPL) on October 15, 1984. The Site was added to the State's Permanent List of Priorities (PLP) in October 1984. With a Hazard Ranking System (HRS) score of 32, the Site was added to the final NPL on June 10, 1986.

The PRPs were sent enforcement documents prior to the initiation of the RI/FS and the Remedial Design and Remedial Action (RD/RA), and were determined to have limited financial resources or to be deceased. Consequently, both the RI/FS and RD/RA were conducted by the MPCA as the lead agency and EPA as the support agency under the previously mentioned MSCA.

IV. REMEDIAL ACTIONS

Remedy Selection

A Record of Decision (ROD) for the Site was signed on June 14, 1988. Explanations of Significant Differences for the Site were signed in 1991 and 1994. The selected remedy consists of the following significant components:

Operable Unit 1:

- Installation of groundwater extraction wells in the contamination plume;
- Treatment of contaminated groundwater; and
- Discharge treated groundwater to the Long Prairie River.

Operable Unit 2:

- Treat contaminated soil with an active soil venting system.

Operable Unit 3:

- Provide an alternative water supply including water main extensions and service connections to the municipal water supply for those residences in the health advisory areas or with a threatened water supply.

The ROD specified Target Cleanup Levels (TCLs), also referred to as cleanup levels or cleanup goals for soils and groundwater. These TCLs were health-based because the total potential lifetime cancer risk from the Site exceeded $1x10^{-4}$. This risk level is representative of an exposure that could result in one excess (beyond the normal background cancer rate) cancer case per ten-thousand people exposed. EPA generally considers a lifetime incremental cancer risk between $1x10^{-4}$ and $1x10^{-6}$ as an acceptable risk for humans and the environment.

For groundwater ingestion, the total potential risk at the Site ranged from an average of $3.8x10^{-4}$ to a maximum or worst case exposure of $5.5x10^{-3}$. The ROD specified that the following TCLs needed to be achieved in groundwater in order to ensure that people were protected against the average or worst-case risk levels. These TCLs translated into federal MCLs or other To Be Considered (TBC) criteria when MCLs were not available—namely the MDH Recommended Allowable Limits (RALs) corresponding to a lifetime incremental cancer risk of $1x10^{-5}$. These TCL values are as follows:

1,1,2,2-tetrachloroethylene (PCE)	6.6 ug/L (RAL)
1,1,2-trichloroethylene (TCE)	5.0 ug/L (MCL)
cis-1,2-dichloroethylene	70 ug/L (RAL)
Vinyl chloride	2.0 ug/L (MCL)

The ROD also noted that if the TCL for PCE was not achievable, as indicated by such asymptotic curves on the aquifer condition or scientifically defensible data analysis from regular groundwater monitoring, the ROD provided for the consideration of alternate concentration levels (ACLs). Adoption of ACLs will require a justification document before the groundwater extraction and treatment system is discontinued.

The ROD specified treatment of the soils to 1,200 micrograms per kilogram (ug/kg) or (ppb) for PCE to achieve a level of 100 ug/L as measured in the leachate. This

leachate-based level was below the soil health-based ingestion level of 1,400 ug/kg corresponding to a $1x10^{-6}$ incremental lifetime cancer risk.

The ROD specified the discharge of treated groundwater to the Long Prairie River. The river is not classified for drinking water use. The discharge concentration of 5 ug/L PCE was expected to produce a worst-case lifetime cancer risk level of 1.5×10^{-8} based on fish consumption. Hence, a discharge of treated groundwater with 5 ug/L PCE at 260 gpm mixing completely with the river flow of 21.2 cubic feet-per-second (cfs) produced a level of 8.8 ug/L in fish, which was slightly more than one-half the Minnesota criteria for fish consumption of local species (15 ug/L). This information is in Table 8.

The calculated risks from exposure to VOC emissions from the air-stripper were found to be protective of human health; hence, no off-gas treatment was required for the air. An Explanation of Significant Differences (ESD) was signed June 13, 1991, to support the use of granular activated carbon (GAC) units in place of the air stripping (as prescribed by the ROD) for treatment of contaminated groundwater. This alteration was made to prevent the transfer of the contamination from water to air.

A second ESD was signed May 25, 1994. This ESD documented the necessity for regular groundwater monitoring and for the provision of an additional alternate water supply via water mains and service connections to the municipal water lines.

The *Description of the Selected Remedy* section of the *Declaration* statement of the 1988 ROD included remedial action objectives (RAOs). Further, the cleanup objectives were clarified in the two ESDs signed subsequent to the ROD. The identified, media-specific RAOs for the Long Prairie Site included the following:

Groundwater

- To provide a safe drinking water supply for present and future users of the two sand aquifers;
- To prevent the spread of contaminated groundwater to wells presently unaffected, including the city of Long Prairie municipal supply well #6 (CW-6).

Soil

- To prevent future impact on drinking water due to the leaching and migration of contaminants from soils to groundwater;
- To prevent ingestion of, and contact with, contaminated soils.

Air and Surface Water

- To prevent chronic and acute adverse impacts on human health during implementation of groundwater and soil remedial technologies;
- To prevent adverse effects on aquatic organisms due to implementation of the remedial action.

The RAOs are designed to protect public health and the environment and to provide a safe drinking water supply for the present and future users of the two sand aquifers. To meet these RAOs, the remedy included the goals of:

1. Restoring the groundwater aquifer by reducing the contaminants of concern to the Target Cleanup Levels (TCLs) listed above;
2. Providing an alternate water supply to persons using the contaminated portions of the aquifer; and
3. Mitigating the soils at the source of the plume to 1,200 ug/kg PCE to maintain an acceptable (less than $1x10^{-6}$) groundwater risk level due to PCE leaching from the source soils.

In order to prevent the spread of contaminated groundwater to wells presently unaffected, including the city of Long Prairie Wells CW-3 and more recently, CW-6, it was acknowledged that the groundwater remediation system may need to continue operating in order to contain the plume, despite the possibility that restoration of the groundwater aquifer to the cleanup levels for PCE, TCE, *cis*-1,2-DCE, and vinyl chloride may not be attainable.

Remedy Implementation

The State performed the RD/RA for the Site. The RD was completed on April 11, 1991. The RA was formally initiated in April 1991, and the construction work was separated into Operable Unit (OU) 1 for groundwater, OU2 for soils, and OU3 for an alternate water supply.

Groundwater System – OU1

Construction of the OU1 groundwater recovery system began in April 1995 and was completed November 18, 1996. The system originally consisted of seven extraction/recovery wells (RW-1A, RW-1B, RW-1C, RW-3, RW-4, RW-6, and RW-7). CW-5, which was closed due to contamination from the contaminant plume, was retrofitted to become RW-5. Extracted groundwater was to be processed through carbon adsorption vessels in a treatment building and discharged to the Long Prairie River.

		will incorporate the results of the evaluation activities and plan for additional IC actions as needed. These activities shall include: evaluating the effectiveness of the Special Well Construction Area (SWCA) implementation; assessing the effectiveness of the MDH Health Advisories; determining whether additional ICs are needed; planning for long-term stewardship; and, determining whether a decision document such as an ESD is required to evaluate these ICs.
	Limit well installation	The MDH SWCA, effective January 2007, prevents new wells from being drilled or otherwise installed within the Area without plans and permission of the MDH in consultation with MPCA (Minn. Chapters 1031 and 4725) An IC study has been conducted by the State. An IC plan will be developed by the State and EPA within 6 months to incorporate the results of the evaluation and plan for additional IC activities as needed, including additional evaluation activities. These activities shall include evaluating the effectiveness of SWCA designation and implementation; determining whether additional ICs are needed; planning for long-term stewardship; and, determining whether a decision document such as an ESD is required to evaluate these ICs.
	Inform new property owners of the number and location of each well on the property.	State law requires sellers of property to disclose to potential buyers at the time of sale the locations and status of all wells on the property being sold (Minnesota Statute 103I.235, subdivisions 1(a) and 2.

Groundwater

Under the current scenario, the groundwater is not anticipated to reach cleanup standards for another 15-20 years (sometime in 2022-2027). This remediation timeframe could decrease if the groundwater system is optimized. The current groundwater area that exceeds cleanup standards is identified in Figure 3. Groundwater use restrictions are necessary to prohibit groundwater usage until the standards are met throughout the plume.

In 1997, the system began pumping and treating the contaminated groundwater with GAC and continued for the one year shakedown period. Groundwater extraction and treatment has continued under EPA and State funding for ten years beyond the shakedown year ending August 1997.

Recovery wells RW-1A, RW-1B, and RW-1C only operated until 1997 during the early phase of the remediation. Operation of these wells was discontinued after sampling results showed concentrations of VOCs too low to significantly contribute to remediation of the aquifer. Recovery well RW-4 was inactivated in 1998 because it was located outside the defined plume boundary. In 2000, recovery wells RW-8 and RW-9 were added to protect the adjacent wetland and the Long Prairie River from north and northwestern plume migration. Currently, six recovery wells (RW-3, RW-5, RW-6, RW-7, RW-8, and RW-9) are pumping.

Pursuant to the ESD of June 13, 1991, GAC units were substituted for the air stripping system to treat the recovered groundwater prior to discharge to the Long Prairie River. Two GAC units were constructed and are currently operating. The GAC water treatment system is designed and constructed to achieve the TCLs for groundwater remediation.

Soil Vapor Extraction (SVE) System - OU2

The contaminated soil source area where the PCE was reportedly dumped down the dry well located in the back lot area is a paved parking and alley-way area of approximately 15,000 square feet. This area is bordered on all sides by commercial buildings.

The SVE system was installed in two phases. The subsurface portion of the system (i.e., vent wells, piping, and monitoring points) was installed in 1995. The above-ground piping, remediation equipment, and enclosures were installed later in July 1997.

The system consisted of nine SVE wells manifolded to form three separate areas for zone control. Soil gas was extracted using a regenerative style 300 cubic feet-per-minute vacuum blower. The soil venting system operated full time from 1997 through 1999. As mentioned, the cleanup level of the soils at the source of the plume was 1,200 ug/kg for PCE. The soils cleanup specifications in the 1994 remediation construction contract for the soil venting system called for PCE removal from soil to meet a soil concentration level equivalent to a sample verification level of 640 ug/kg. This lower level is to account for documented loss of volatiles during sampling and analysis of soils. This cleanup level was achieved.

Secondary goals of the soil source area remediation recognized since the ROD have reduced potential dermal and inhalation exposure to chlorinated solvent contamination during future excavation work near the former dry-cleaning facility and have reduced possible inhalation of vapors in nearby buildings. As of 1999, the system was

Air and Surface Water

- To prevent chronic and acute adverse impacts on human health during implementation of groundwater and soil remedial technologies;
- To prevent adverse effects on aquatic organisms due to implementation of the remedial action.

The RAOs are designed to protect public health and the environment and to provide a safe drinking water supply for the present and future users of the two sand aquifers. To meet these RAOs, the remedy included the goals of:

1. Restoring the groundwater aquifer by reducing the contaminants of concern to the Target Cleanup Levels (TCLs) listed above;
2. Providing an alternate water supply to persons using the contaminated portions of the aquifer; and
3. Mitigating the soils at the source of the plume to 1,200 ug/kg PCE to maintain an acceptable (less than $1x10^{-6}$) groundwater risk level due to PCE leaching from the source soils.

In order to prevent the spread of contaminated groundwater to wells presently unaffected, including the city of Long Prairie Wells CW-3 and more recently, CW-6, it was acknowledged that the groundwater remediation system may need to continue operating in order to contain the plume, despite the possibility that restoration of the groundwater aquifer to the cleanup levels for PCE, TCE, *cis*-1,2-DCE, and vinyl chloride may not be attainable.

Remedy Implementation

The State performed the RD/RA for the Site. The RD was completed on April 11, 1991. The RA was formally initiated in April 1991, and the construction work was separated into Operable Unit (OU) 1 for groundwater, OU2 for soils, and OU3 for an alternate water supply.

Groundwater System – OU1

Construction of the OU1 groundwater recovery system began in April 1995 and was completed November 18, 1996. The system originally consisted of seven extraction/recovery wells (RW-1A, RW-1B, RW-1C, RW-3, RW-4, RW-6, and RW-7). CW-5, which was closed due to contamination from the contaminant plume, was retrofitted to become RW-5. Extracted groundwater was to be processed through carbon adsorption vessels in a treatment building and discharged to the Long Prairie River.

recovering only minimal concentrations in the parts-per-billion range of PCE from the soil gas. The soil venting system was completely removed in 2000.

Alternate Water Supply - OU3

Pursuant to the previously mentioned 1994 ESD, the OU3 was for the connection of residences to the municipal water system for those individuals using private wells within the Health Advisory area. Emergency connections to existing water mains were completed for five residences in January 1994. Additional remedial activities connecting the remaining residents to the municipal water supply took place in the fall of 1996. Pavement replacement and landscape restoration were completed in the spring of 1997.

Institutional Controls

Institutional controls (ICs) consist of non-engineered instruments, such as administrative and legal controls that help to minimize the potential for exposure to contamination and that protect the integrity of the remedy. ICs are required to assure long-term protectiveness until all areas of the Site allow for unlimited use or unrestricted exposure (UU/UE). If cleanup levels at the Site cannot be met, the ICs will limit exposure to areas that do not allow for UU/UE.

Neither the 1988 ROD, nor the two subsequent ESDs in 1991 and 1994 documented the need for ICs as part of the remedy. However, due to the nature of the contamination and the fact that human exposure to contaminated groundwater was either likely to occur, or had occurred in some instances, ICs were implemented at the Site to protect human health. The areas of groundwater contamination at the Site that currently do not support UU/UE are identified in Figure 3. The table below summarizes the ICs implemented to date for these restricted areas.

Table 2 - Institutional Controls Summary

Media, Engineered Controls, & Areas that Do Not Support UU/UE Based on Current Conditions.	**IC Objective**	**Title of Institutional Control Instrument Implemented (note if planned)**
Groundwater – current area that exceeds groundwater cleanup standards identified in Figure 3.	Recommend limited groundwater use until cleanup standards are achieved.	MDH Health Advisory (HA) Area: In 1983, a HA was placed on a 15-block area of northeastern Long Prairie. In 1994, the HA area was extended when additional MPCA testing outside of the original advisory area found more residential wells contaminated with PCE (Figure 3). An IC study has been conducted by the State. An IC Plan will be developed within 6 months. The Plan

		will incorporate the results of the evaluation activities and plan for additional IC actions as needed. These activities shall include: evaluating the effectiveness of the Special Well Construction Area (SWCA) implementation; assessing the effectiveness of the MDH Health Advisories; determining whether additional ICs are needed; planning for long-term stewardship; and, determining whether a decision document such as an ESD is required to evaluate these ICs.
	Limit well installation	The MDH SWCA, effective January 2007, prevents new wells from being drilled or otherwise installed within the Area without plans and permission of the MDH in consultation with MPCA (Minn. Chapters 1031 and 4725) An IC study has been conducted by the State. An IC plan will be developed by the State and EPA within 6 months to incorporate the results of the evaluation and plan for additional IC activities as needed, including additional evaluation activities. These activities shall include evaluating the effectiveness of SWCA designation and implementation; determining whether additional ICs are needed; planning for long-term stewardship; and, determining whether a decision document such as an ESD is required to evaluate these ICs.
	Inform new property owners of the number and location of each well on the property.	State law requires sellers of property to disclose to potential buyers at the time of sale the locations and status of all wells on the property being sold (Minnesota Statute 103I.235, subdivisions 1(a) and 2.

Groundwater

Under the current scenario, the groundwater is not anticipated to reach cleanup standards for another 15-20 years (sometime in 2022-2027). This remediation timeframe could decrease if the groundwater system is optimized. The current groundwater area that exceeds cleanup standards is identified in Figure 3. Groundwater use restrictions are necessary to prohibit groundwater usage until the standards are met throughout the plume.

The ICs that have been implemented include:

- Health Advisory and Extended Advisory Areas

Physical Area: In 1983, MDH issued a Health Advisory for residential wells in a 15-block area of the city (Figure 3).

IC Objective: A Health Advisory is a recommendation by the MDH Commissioner to not drink water withdrawn from within the Designated Advisory Area. Those residents within the Designated Advisory Area (DAA) were initially provided bottled water and an activated carbon system was installed on the contaminated municipal wells. In November 1984, the affected residents were connected to the municipal water supply.

An Extended Health Advisory Area was established in 1994 by MDH when additional MPCA testing outside of the original DAA identified five private drinking water wells to the east of the DAA contaminated with PCE (Figure 3). The purpose of the extended Health Advisory area was to recommend that those residents with private drinking water wells in the Extended Health Advisory Area (approximately 20) be connected to municipal water and that the remaining private wells be abandoned. The connection of these wells was done in January 1994 pursuant to the second ESD[1].

The combined adjacent Health Advisory Area and Extended Health Advisory Area (the DAAs) fully cover the geographical area of the groundwater that exceeds groundwater cleanup standards where commercial and residential land uses occur or are anticipated to occur. No additional advisories have been issued since 1994.

Long-Term Stewardship: Long-term protectiveness requires compliance with groundwater use restrictions. The original and extended Health Advisories are still in effect for the areas identified in Figure 3. Residents are informed and apprised of the status of the Health Advisories on a continuing basis via public notices and in the five-year review reports. The previous five-year review in 2002 identified the need to obtain an updated list of municipal water supply users within the DAA, and to conduct an updated water receptor survey to identify any new or previously unidentified private water supply wells still being used in the DAA. This information was obtained in June 2003. All of the current users have been verified and/or identified by publishing newspaper ads and making phone calls in 2003-2004, and in 2006. The results of the survey are mapped in Figure 4. Because the resident Spanish-speaking population has increased over the past 15-20 years, the notices and fliers are also printed in Spanish. The last notice was issued in January 2007 and is included in Appendix B. The Health Advisory and Extended Health Advisory are still in effect covering the full DAA.

[1] The 1988 ROD did not identify groundwater monitoring as a component of the selected remedial action, nor anticipate the spread of the contaminant plume prior to the implementation of the remedy. Therefore, the purpose of the 1994 ESD was to clarify the need for regular residential groundwater monitoring and to provide for an alternate water supply or municipal water supply connection to the affected residences.

Current Compliance: Those residents within the DAA were connected to the municipal water supply in 1984. In 1994, when MPCA found more threatened residential wells outside the original DAA, these residences were connected to the municipal water supply. The 1994 ESD provides for continuing sampling of residential wells and the provision of municipal connections when indicated. The Long Prairie well receptor survey will also be regularly updated. As mentioned, bilingual English/Spanish notices and publications alerting residents to the groundwater contamination and the combined Health Advisory DAAs were distributed to residents in October 2002 and January 2007. At the present time, only one known resident still uses a private well for drinking water and refuses to connect to the municipal water supply. Also, one business could not be hooked up to city water because of building foundation problems. This business uses bottled water for drinking and well water for toilets and hand-washing. Two other businesses use private wells for non potable needs. A few other residents use private well water for irrigation purposes.

- Special Well Construction Area (SWCA)

Physical Area: On January 1, 2007, as a result of MPCA's staff's 2004 request, the MDH designated a Special Well Construction Area (SWCA) that includes the central portion of the city of Long Prairie and runs northward (see Appendix A and Figure 3).

IC Objective: A SWCA is a governmental mechanism which provides for controls on the drilling or alteration of water supply wells and monitoring wells in an area where groundwater contamination has, or may, result in risks to public health. Designation of a SWCA prevents new wells from being drilled or otherwise installed within the Area without plans and permission of the MDH Commissioner working in consultation with MPCA Site staff. The purpose of a SWCA is to: 1) inform the public of potential health risks in areas of groundwater contamination, thereby preventing exposure through the use of private drinking water wells; 2) provide for construction of safe water supplies; and 3) prevent further spreading of the contaminant plume via random groundwater withdrawal from the aquifer via the use of private wells.

The SWCA geographically encompasses both the contaminant plume and the two areas that are the DAA by the MDH.

Long-Term Stewardship: Special construction requirements are authorized by Minnesota rule and statute in areas of known or suspected contamination. The SWCA prevents the installation or modification of wells for uses that would not be protective of either human health or the environment and ensures that all wells that are installed or modified, whether they be cased through the contaminated aquifers or within them, are constructed in a manner that is protective of human health and the environment. For example, in order to provide safe water it may be necessary to require the construction of deeper

wells, employ special construction techniques, conduct specialized testing, or require special water treatment procedures.

Under the SWCA, contractors proposing to drill any well or boring in an advisory area must contact the MDH, Well Management Section prior to construction. Contractors and property owners must submit a written request and well construction plan to the MDH and must receive written approval before construction, repair, or sealing of a well in the SWCA.

Current Compliance: In 2007, the SWCA notice was sent to all dewatering well contractors, elevator contractors, monitoring well contractors, vertical heat exchanger contractors and all well contractors who have either worked in Todd County or may be likely to work there in the future. Copies are also sent to the city of Long Prairie and Todd County. A notice of this designation also will appear in the upcoming spring/summer Well Management Newsletter sent to all licensees and registrants as well as to other parties that work with all aspects of groundwater resources. The notice and map also appear on the Well Management Site (www.health.state.mn.us/div/eh/wells/swca/index.html). The Notice of Designation of a Special Well Construction Area for Long Prairie is included in Appendix A. No reports of non-compliance with the SWCA have been received.

An IC review has been conducted by the State through its contractor, Terracon, in preparation for this five-year review report. An IC Plan will be developed within the next six months to assess whether additional layers of groundwater use restrictions are needed in the areas where UU/UE is not yet achieved. The IC Plan will also plan for additional IC activities as needed, including strategies for long-term Site stewardship.

System Operations/Operation and Maintenance (O & M)

Groundwater Extraction and Treatment – OU1

Currently six recovery wells pump impacted water to the treatment building where the water is treated by activated carbon prior to discharge to the Long Prairie River. The discharge is regulated by an NPDES permit. Quarterly reports detailing cumulative flow and discharge chemistry are submitted. The system operates 24 hours per day seven days per week. The Site has a water appropriations permit for extracting water from the aquifer. The permit was issued by the Minnesota Department of Natural Resources (MDNR) and reporting regarding water use is done annually. No permit fees are associated with these two permits.

Site Inspections occur weekly. During these visits, routine activities include recovery well flow rate measurements, general system inspection, carbon vessel pressure inspection, and backwashing if necessary.

Detection of VOCs in samples collected from the lead tank effluent signals breakthrough conditions. Once breakthrough is observed, the lead vessel is considered spent. The spent carbon is replaced with regenerated carbon. Generally one carbon vessel is changed out per year. The spent carbon is sent to a regeneration facility as an F002 hazardous waste.

The major O&M issues that were encountered at the Site are described below:

- High iron precipitation and iron bacteria fouling in the recovery well lines are managed by cleaning the lines regularly with pigging operations. This includes introducing a soft plastic or foam plug (pig) into the line. As the pig is pushed along by water pressure from the well, it dislodges iron precipitation and bacterial build-up. Discharge water from the pigging process is diverted to the sanitary sewer system.
- High iron precipitation and iron bacteria fouling in the raw water is removed in the lead GAC vessel. The iron causes an increased head loss across the vessel. This head loss is controlled by regular backwashing of the lead vessel. The backwash water is discharged to the local sewer system by permit.

- Recovery well pump, motor, and flow rate maintenance problems are repaired or replaced, as necessary, by a well maintenance contractor. The original flow meters were replaced in 2003. The new flow meters appear to operate in the high iron content environment more effectively. The well pump and motor conditions are presented to MPCA in the Annual Report.

- Monitoring well and recovery well covers and casings are inspected during monitoring events. Damage is reported on a regular basis and scheduled immediately for repair. An updated well condition table is submitted to the MPCA in the Annual Report.

- During a 2007 groundwater modeling effort, MPCA determined that the well screens in the recovery wells were plugged with iron fouling and bacteria accumulation. The plugged screens reduced the pumping efficiencies. Recovery wells RW-3, RW-5, and RW-6 were cleaned and reconditioned in June 2007. The remaining active recovery wells, RW-7, RW-8, and RW-9 were cleaned and reconditioned in July 2007.

- The Long Prairie River Stewardship group expressed concern about the low oxygen levels in the discharge to the River during periods of lower flow. Although no adverse effect was observable in the River, this concern was addressed by documenting the presence of air in the piping from the plant to the discharge point. Also, gravel was installed in the outfall area directly beneath the discharge pipe for better aeration of the discharge water.

Groundwater elevations are collected from the recovery wells and monitoring wells on a quarterly basis. Recovery wells are sampled twice yearly for VOCs. VOC samples also

are collected periodically from 22 monitoring wells. The frequency of sample collection depends on the location of the well relative to the plume. Some monitoring wells are sampled twice yearly and some are sampled every other year. The results of the sampling are reported annually.

Since the last five-year review, four additional monitoring wells have been installed. Monitoring wells MW-20B and MW-20C were installed in 2004 to monitor potential plume migration towards CW-3. Monitoring wells MW-21B and MW-21C were installed in 2006 in conjunction with an *in-situ* anaerobic bioremediation pilot test conducted in March 2007.

The status of private wells is checked and the wells are sampled at least every two to three years when permission can be obtained. One private well owner refuses to hook up to city water and continues to use the well as a potable water supply; hence, the well is sampled quarterly. The resident has been contacted by the MDH and was personally informed of the health risks associated with using the well.

The status and pumping rates of high-capacity irrigation wells and city wells were investigated as part of the groundwater modeling effort. The effect on plume migration resulting from pumping these wells also was modeled. Results of the groundwater modeling were presented by Terracon in the July 13, 2007 report: *Groundwater Flow and Hydraulic Capture.*

Soil Vapor Extraction System – OU2

The soil venting system operated on a full time basis from 1997 through 1999 and was removed in 2000 when the soil RAOs were achieved.

Alternate Water Supply - OU3

The city of Long Prairie is using the water main extensions as intended and has assumed responsibility for their maintenance. OU3 continues to perform as per the objectives in the ROD. Municipal water supply hookups were provided to all well owners who requested them with the exception one business, MOTL Heating and Plumbing, which was unable to connect to the water main due to building foundation problems. The business is using bottled water for drinking. The well water from this facility is sampled periodically.

Currently, MPCA staff are emphasizing the importance to well owners within or adjoining the plume to seal their old wells. Sealing the wells eliminates the potential for residents to use the wells for drinking water or irrigation. Due to previous efforts, most wells discovered throughout 1984 and 1994 are already properly sealed.

O&M Costs

The June 1988 ROD estimated the total O&M cost of groundwater extraction with GAC treatment (OU1) to be $300,000 per year for five years. Remedial design modeling indicated the system would need to operate for at least 15 years to achieve cleanup goals. The ROD also estimated the SVE system (OU2) annual O&M costs to be $140,000 per year for 3 years.

MPCA's actual annual O&M costs for both the groundwater extraction and treatment system and the SVE system, prior to and during the first and second five-year review periods, are detailed in Table 3 - Annual System Operations and O&M Costs. The State's fiscal year cycle is from July 1 through June 30. This reporting period is used to calculate annual operating costs. These costs also include well installation and maintenance contractors, contractor oversight, carbon changeout activities, reporting efforts, groundwater modeling, and activities associated with the pilot testing currently being performed for enhancing the natural attenuation process.

For the year ending June 30, 2001, $219,000 is a typical cost for annual O&M for the groundwater extraction and treatment system OU1.

Table 3: Annual System Operation and Maintenance (O&M) Costs

Dates		Total Cost (Rounded to nearest $ 1,000)	
From	To		
7/1/97	6/30/98	$ 326,000.00	(includes O&M of OU1 and OU2)
7/1/98	6/30/99	$ 295,000.00	(includes O&M of OU1 and OU2)
7/1/99	6/30/00	$ 344,000.00	(includes O&M of OU1, O&M of OU2 for ½ year, and oversight of RW construction)
7/1/00	6/30/01	$ 219,000.00	(includes O&M of OU1)
7/1/01	6/30/02	$ 202,286.00	
7/1/02	6/30/03	$ 217,038.00	
7/1/03	6/30/04	$ 129,000.00	
7/1/04	6/30/05	$ 150,000.00	
7/1/05	6/30/06	$ 168,000.00	
7/1/06	6/30/07	$ 375,000.00 (includes costs only through May 31, 2007)	
Total Cost		$ 2,425,324.00 (underestim. due to exclusion of June 2007)	

The annual expenses for the majority of the operating years fall well below the ROD estimate of $300,000 per year. Operating costs for fiscal year 2007 are higher than this estimate due to the groundwater modeling efforts, recovery well cleaning/reconditioning activities, multiple carbon changeouts, additional monitoring well installation, and pilot testing.

V. PROGRESS SINCE LAST REVIEW

The first five-year review, completed in 2002, contained several recommendations. Table 3 summarizes these recommendations and provides a summary of the associated follow-up actions.

Table 4 - Progress Since the Last Five-Year Review

Issues	Recommendations	Action Taken
1. Possible use of existing undocumented water supply wells in the contaminated area, especially by new property owners that might be unaware of groundwater contamination problems.	a. Request updated list of municipal water supply users for the Health Advisory area from the city of Long Prairie. b. Conduct an updated groundwater receptor survey to identify a possible new or formerly unidentified supply wells that are being used in the Health Advisory area. c. Use information from the above survey to identify and inform groundwater users in the advisory area.	a. The city of Long Prairie provided list of the "sewer only" residents within the city limits in 2002. b. MPCA and its consultant completed a Well and Receptor Survey in June 2003. The survey utilized direct mailings, door-to-door meetings and telephone surveys to identify potential receptor and communicate with potential groundwater users. Residential well sampling of identified/ accessible private wells was conducted in 2003, 2004 and 2006. Figure 4 is a map of residential wells identified and sampled. c. MCPA published a flier, Long Prairie Groundwater Cleanup Project Update, in 2003. The English/Spanish flier provided timely information to new and existing residents concerning remediation efforts and existing groundwater impacts. A plume map was provided in the flier. A copy of the flier is included in Appendix B.
2. Threatened contamination of one existing residential water supply well located near the east edge of the plume.	a. This residential supply well will be added to the routine monitoring program. b. The provision of alternate water or city water will be evaluated and offered if it is feasible and if contamination is present.	a. MPCA and its consultant completed a Well and Receptor Survey in June 2003. The survey utilized direct mailings, door-to-door meetings and telephone surveys to identify potential receptor and communicate with potential groundwater users. Residential well sampling of identified/ accessible private wells was conducted in 2003, 2004 and 2006. Figure 4 is a map of residential wells identified and sampled.

Issues	Recommendations	Action Taken
3. Adequate groundwater monitoring of lower aquifer between plume and municipal water supply wells.	a. The MPCA staff has recommended installing a groundwater monitoring well in the lower sand aquifer between the plume and CW-3.	a. Monitoring Wells MW-20 B and MW-20C were installed in October 2004. These wells are located between CW-3 and the PCE plume. The well placement was selected to detect potential impacts moving towards CW-3. Monitoring Wells MW-20B and MW-20C are sampled twice a year. VOCs have not been reported in the collected groundwater samples.
4. Possible low-level DCE contamination in CW-3.	a. Drinking water standards have not been exceeded, routine monitoring for DCE and other VOCs will continue.	a. Monitoring Wells MW-20 B and MW-20C were installed in October 2004. The well placement was selected to detect potential impacts moving towards CW-3. Monitoring Wells MW-20B and MW-20C are sampled twice a year. VOCs have not been reported in the collected groundwater samples from wells MW-20B, MW-20C or CW-3. Monitoring efforts are continuing.
5. Ongoing maintenance and performance monitoring needed to assure groundwater pump and treat system continues to operate properly.	a. The level of maintenance and performance monitoring that is being conducted is adequate. b. Maintenance and monitoring will need to continue in the future.	a. Changes to the ongoing maintenance and performance monitoring were not necessary. As equipment needs develop, MPCA repairs or replaces the necessary components.
6. Construction of new irrigation wells on school property approximately ¼ mile northeast of current plume boundary.	a. Acquire information about well construction, capacity, and operating frequency. b. Incorporate information into Barr's Site groundwater model and capture zone analysis.	a. MPCA initiated groundwater modeling efforts in 2006 and this effort has continued into 2007. The new effort utilizes more recent computer models to develop capture and plume analysis. The new model will evaluate effects of other identified users. Attachment D shows the locations of other identified groundwater users.
7. Possible presence of 1,4-dioxane which has been found to occur with chlorinated solvent contamination at other sites.	a. Collect two rounds of representative samples from groundwater monitoring wells and system influent and effluent to verify whether or not this compound is present.	a. MPCA collected groundwater samples in 2003 and 2004 for analysis of 1,4-dioxane. Collected sampling locations included the six operating recovery wells, three inactive recovery wells, and 24 monitoring wells. Based on analytical results, 1,4-dioxane was not detected in any wells.
8. Assure that adequate monitoring is being conducted to assess potential plume discharge to the Long Prairie River and adjoining wetlands.	a. Modify the groundwater monitoring plan to include regular sampling of all nested monitoring wells that are located along the edge of the Long Prairie River and adjoining wetlands.	a. MPCA's current schedule requires collection and analysis of samples from the nested wells located along the edge of the Long Prairie River and adjoining wetlands on a yearly basis.

In addition to the recommendations provided in the first five-year review report, and the subsequent follow up actions, MPCA has initiated the following response activities:

- Recovery Well Cleaning/Reconditioning

During groundwater modeling efforts, MPCA discovered that the recovery well screens were plugged. High dissolved iron concentrations can cause excessive iron deposits within the formation and on the well screens. Additionally, iron fouling bacteria can accumulate within the well and reduce well efficiency. Recovery Wells RW-3, RW-5 and RW-6 were cleaned/reconditioned in June 2007. The remaining Recovery Wells screens were cleaned in August 2007.

- In-Situ Anaerobic Bioremediation Pilot Testing

In an effort to optimize groundwater remediation efforts, MPCA initiated an *in-situ* anaerobic bioremediation pilot test in March 2007. The *in-situ* anaerobic bioremediation pilot test selected for the Site was designed to investigate the effects of injecting fermentable substrates into an impacted groundwater plume and to monitor the effects on VOC concentrations and a variety of other subsurface chemical changes affected by the dechlorination process. Evaluation of the pilot test data is ongoing, but initial results show a decrease in PCE. A pilot test summary report is expected in October 2007.

VI. FIVE-YEAR REVIEW PROCESS

Administrative Components

The five-year review was initiated on March 13, 2007. The review components included:

- Community Involvement;
- Document Review;
- Data Review;
- Site Inspection;
- Local Interviews: and
- Five-Year Review Report Development and Review.

The Five-Year Review team included Sheila Sullivan, EPA Remedial Project Manager (RPM) for the Site, Nile Fellows, MPCA Project Leader for the Site, and Barb Gnabasik, MPCA Project Hydrogeologist for the Site.

Community Notification and Involvement

A public notice announcing the five-year review was placed in the February 28, 2007 issue of the *Long Prairie Leader*. A copy of the public notice is included in Appendix C.

Document Review

This five-year review process consisted of a review of relevant documents including the ROD, the first five-year review dated September 30, 2002, two ESD documents, annual reports, and MPCA staff correspondence. A list of the documents reviewed is presented in Appendix F, Bibliography.

Data Review

Groundwater elevation and analytical data were reviewed since pumping action was initiated (Appendix D) in 1997. Refer to Section VII of this report (Technical Assessment) for a more detailed discussion. Appendix F provides a complete listing of the reviewed data and documents.

Site Inspection

A Site inspection was conducted on June 26, 2007 by Sheila Sullivan, EPA RPM, Nile Fellows, MPCA Project Leader, Barb Gnabasik, MPCA Project Hydrogeologist, and MPCA consultant Carol Van Neste of Terracon Consultants, Inc. The details of the inspection are provided in the Appendix E - Five-Year Review Site Inspection Checklist and Photographs.

Interviews

MPCA interviewed two local officials for the purposes of this five-year review. The individuals included:

- Mr. David Venekamp, City Administrator
  Mr. Dan Spieker, Public Works Director
  Location: City Hall Council Chambers, Long Prairie, Minnesota
  Time of Meeting: 1:30 pm, June 26, 2007

Mr. Venekamp and Mr. Spieker did not have any issues regarding the Long Prairie, Groundwater Remediation System. Mr. Venekamp indicated that he thought the city and residents were well-informed of the remediation progress. He confirmed that everyone in the city was connected to the municipal water supply except for one resident and one business. Mr. Venekamp has received minimal requests for information concerning the system, and there have been no complaints concerning the water quality or potential vapor intrusion issues.

Mr. Venekamp indicated the city did not have any ordinances, besides the MDH Health Advisory Areas and SWCA, restricting groundwater use in the plume area.

Mr. Venekamp also indicated that although there were about 100-200 new residents in the city since 2000, the city's water use is expected to be reduced in the near future. This is because one business currently using city water, Long Prairie Packing Co., will be installing its own wells on the west side of the Long Prairie

River. Long Prairie Packing has been a major user of city water; removing them from the system will reduce the city water demand by about 40 percent.

In accordance with Minnesota Rules (MR 472.5100-4720.5590) for preparing and implementing well head protection plans for public water supply wells, the city of Long Prairie submitted Part 1 of its Well Head Protection Plan. Part 1, which was approved by the MDH in October 2006, serves to: 1) delineate the well head protection area (WHPA); 2) delineate the drinking water supply management area (DWSMA); and, 3) assess the well and aquifer vulnerability to contaminants. The city is now proceeding with the development of the remainder of its well head protection plan.

The city of Long Prairie has recently completed a second industrial park, but has not found tenants for the facility.

- Ms. Kitty Tepley
  Todd County Soil and Water Conservation District
  LWM/TMDL Coordinator
  Location: Todd County Soil and Water Conservation District Office, Long Prairie, Minnesota
  Time of Meeting: 3:00 pm, June 26, 2007

  Ms. Tepley did not have any current issues regarding the Long Prairie, Groundwater Remediation System. The District had just completed its TMDL study for the Long Prairie River. In the past, Ms. Tepley had been concerned about the low level of dissolved oxygen in the Long Prairie River. This problem is caused by point source pollution from the wet industry dischargers. According to Ms. Tepley, this issue was addressed by installing rock directly beneath the treatment system outfall pipe, creating a cascade. Additionally, dissolved oxygen levels in the river are monitored four times a year and comply with the discharge limitations.

  Ms. Tepley had not seen the most recent announcements concerning the remediation system update and the current five-year review. Both announcements were published in the local paper, the *Long Prairie Leader.* Ms. Tepley suggested that announcements also be published in the *Todd County Courier* and the *Browerville Blade.*

  Ms. Tepley indicated that in a recent survey of Todd County residents, groundwater quality was a higher priority than surface water quality. This came as a surprise to Ms. Tepley, considering the region's interests in recreational surface water use.

  Ms. Tepley indicated that the Long Prairie River is very influenced by the groundwater discharges to it because it never freezes in winter. She did not feel

that surface water quality had been negatively impacted by the groundwater contamination in Long Prairie.

VII. TECHNICAL ASSESSMENT

Hydraulic Capture Summary

The groundwater contour maps (See Figures 7A, 7B and 7C) illustrate specific capture zones for each recovery well. Groundwater elevations are collected from the recovery wells and monitoring wells on a quarterly basis. The groundwater elevation data along with groundwater analytical results are presented in Appendix D. Nested wells are screened at different levels below the ground surface (bgs). The general depth bgs at which the well is screened is signified by the suffix A, B, or C. The "A" wells are screened at the water table, the "B" wells are screened at the base of the upper outwash, and the "C" wells are screened in the lower outwash.

Groundwater flow modeling, together with particle tracking analyses, were completed to support this five-year review. The groundwater flow modeling suggests that the remedial system is operating as designed and provides hydraulic capture to effectively contain the groundwater that is contaminated above the cleanup goals at the Site. The modeling also explored the protectiveness of the remedy under different scenarios by varying the pumping schedules of the Site groundwater extraction wells (OU1) and the Long Prairie city supply wells as follows.

Scenario 1: Describes the current situation in which Site groundwater extraction wells (OU1) are **operating,** and city supply wells are pumping **every other month**. The modeling conditions included long-term-average recovery rates at the groundwater extraction wells and the current representative pumping rates at the city supply wells. Under these conditions, the dividing streamline separating water recovered by the city supply wells from that which is not appears to lie east of the Composite Target Zone (area of the contaminant plume). This suggests that contaminated groundwater within this Zone will not migrate toward the city supply wells. Figure 8 shows the Composite Target Zone in relation to the city wells (CW-4 was decommissioned in May 1984). The figure shows that the expected hydraulic groundwater movement is from CW-3 toward the plume area. The colored areas in Figure 8 correspond to the areas of groundwater capture, according to the model. Each color defines the area(s) captured by a given recovery well or recovery well group.

However, there are groundwater levels and river stage measurements that suggest diminished hydraulic capture in the northwest portion of the footprint of the plume following flooding or other high river events. The modeling report recommends that additional hydraulic information be collected to determine the magnitude of any potential contaminant breakthrough in this area.

Scenario 2: The Site groundwater extraction system (OU1) is **not operating,** and city wells are pumping **every other month**. The modeling results suggest under this

scenario that the zone of capture for the city supply wells under the current city pumping conditions (approximately 250 gpm per well, operating every other month), extends eastward and does not intersect the area of impacted groundwater at the Site; hence, the model indicates that contaminated groundwater will not migrate toward the city supply wells.

Scenario 3: The Site groundwater extraction system (OU1) is **not operating,** and the city wells are pumping **continuously.** Using the possible peak pumping rates at the city wells (approximately 250 gpm per well), it appears possible that contaminated groundwater would migrate toward the city supply wells.

It is difficult to assign a level of confidence to these conclusions. This is primarily because hydraulic gradients at the Site are relatively low, and the extent of drawdown – and, by extension, hydraulic capture – induced by the city supply wells is difficult to ascertain based on available measured water level data. Water level maps prepared in support of the groundwater flow modeling support the conclusions above. In addition, recommendations were made on the basis of the modeling to gather additional data to increase confidence in the understanding of the aquifer response to city well pumping, by:

a. Installing a nested monitoring well near the city pumping well CW-3; and,

b. Installing water level transducers in this nested well, and in an appropriate nested well close to city supply well CW-6.

Evaluation of Remedial Actions

The groundwater extraction and treatment system has operated since 1996. The total volume treated by the system is approximately 1.2 billon gallons. Table 5 provides a yearly total of gallons treated based on a flow estimated to the nearest 1,000,000 gallons.

Table 5 - Yearly GAC Treatment System Flow

Years	Total Gallons Treated
1996 – 1997	122,000,000
1997 – 1998	60,000,000
1998 – 1999	48,000,000
1999 – 2000	109,000,000
2000 – 2001	103,000,000
2001 – 2002	122,000,000
2002 – 2003	142,000,000
2003 – 2004	117,000,000
2004 – 2005	116,000,000

2005 – 2006	116,000,000
2006 – 2007	96,000,000
2007 *	37,000,000
Total	**1,188,000,000**

* Flow recorded through June 30, 2007

Initial PCE concentrations for each recovery well and maximum concentrations are presented in Table 6 below. Concentrations in groundwater samples collected from recovery wells RW-3, RW-5, RW-6, and RW-7 initially increased over several years of operation as more highly contaminated groundwater was drawn to the wells through the pumping action. Since reaching their maximum PCE concentrations, the PCE levels in these wells have declined. Groundwater samples collected from recovery wells RW-8 and RW-9 exhibited their maximum concentrations when activated. Table 6 also presents the percent reduction of PCE concentrations. These efficiencies were calculated as a percent reduction in PCE concentrations based on maximum observed concentration and the concentration observed during this five-year review period.

Table 6 - Percent Reduction of Chlorinated PCE Concentration

Well Number	PCE (max) ug/L	PCE (initial) ug/L	PCE (1st Five-Yr Review) ug/L	PCE (2nd Five-Yr Review) ug/L	% PCE Reduction (from max to 1st Five-Yr Review)	% PCE Reduction (from 1st to 2nd Five-Yr Review)
RW-3	180	78	20	12	89	40
RW-5*	340	68	84	41	75	52
RW-6	120	6.3	9.5	2.7	92	72
RW-7**	130	25	22	21	83	5
RW-8*	95	86	16	9.9	83	38
RW-9	22	9.8	15	7.6	32	49

PCE concentrations for the First Five-Year review comparison were collected during October 2002.
PCE concentrations for the Second Five-Year review comparison were collected during April 2007.
* Second Five-Year review concentration collected in October 2006. The well was inactive during the April 2007 sampling event.
** Second Five-Year review concentration collected in May 2007.

Monitoring Well Network Data Summary

Annual hydraulic and water quality monitoring of groundwater in the Long Prairie aquifer is performed to assess the performance of the groundwater extraction and treatment system. The two primary purposes of the monitoring are to assess whether the system

is capturing the groundwater plume and also to evaluate the progress being made towards achieving the groundwater cleanup goals.

Groundwater extraction and treatment activities were initiated in May 1996. Groundwater monitoring as part of the remedy also began in 1996 and has continued through 2007. The objectives of the groundwater monitoring are as follows:

- Perform water level monitoring to determine whether hydraulic control has been achieved by the extraction system and to determine if contaminant plumes are being captured by the groundwater recovery wells.
- Provide ongoing monitoring data and chemical analysis for groundwater monitoring wells.
- Compare the groundwater analytical data to the historic sampling results to evaluate the effectiveness of the recovery system and assess the degree of progress made towards achieving the final cleanup goals, as specified in the ROD.
- Evaluate the monitoring data and trends in concentrations to assess the need for modifications to the existing remedial actions and future monitoring requirements.

In addition to collection of groundwater elevation data to determine the treatment system capture effectiveness and flow direction, groundwater samples have been collected from Site monitoring and recovery wells for chemical analyses. Analytical results for individual recovery wells provide information detailing contaminant concentrations in different areas of the city. City wells are sampled twice yearly to ensure that the municipal water supply does not contain the dry-cleaning solvents discussed above. Monitoring wells are sampled once to twice yearly to aid in defining the extent of the contamination plume. Private wells are sampled periodically and their usage is checked to ensure that human health and welfare and the environment are being protected. Analytical data for recovery wells, city wells, monitoring wells, and residential wells is presented in Appendix D.

Figures 9A through 9G show the inferred extent of PCE, TCE and *cis*-1,2-DCE contamination in the three different monitoring well depths based on the most recent analytical results. The data includes analytical results from late 2006 and the first half of 2007. TCE and *cis*-1,2-DCE were not detected in the shallower water table (A) wells. Therefore, plume maps for TCE and *cis*-1,2-DCE only include figures for these contaminants in the B and C wells.

Based on a review of groundwater contour maps and subsequent groundwater modeling efforts, it appears that the contaminant plume is being captured by the ongoing recovery activities. However, the *cis*-1,2-DCE plume has migrated into the wetlands adjacent to the Long Prairie River on the north end of the Site. The

concentration of *cis*-1,2-DCE detected in monitoring well MW-15B (2.4 ug/L) is well below the chronic surface water standard of 529 ug/L established by the MPCA.

Figures 10 through 12 present a graphical representation of the PCE concentration trends for data collected since July 2001. The PCE plume has remained fairly consistent in shape, but some concentrations have declined. While greater reductions were observed during the first five years of the system operation, PCE concentrations are continuing to decrease slowly in most of the Site monitoring wells. The wells experiencing the most significant PCE reductions are generally the wells with the highest initial PCE concentrations. Several of the monitoring wells and the majority of the recovery wells are displaying fairly steady PCE concentrations over the past five years. Based on monitored natural attenuation (MNA) work, MPCA staff estimated that at the current rates of MNA, the plume would take an additional 15 to 20 years to achieve the cleanup levels.

PCE concentrations in monitoring wells MW-2B (Figure 10) were showing a consistent declining trend until the two most recent sampling events during which a slight increase occurred. This slight increase is not considered significant when compared to the overall downward trend in PCE concentrations over the past four years. However, the trends in monitoring wells MW-2A and MW-2C are less apparent. The PCE concentrations in these wells have changed little over the past five years. PCE concentrations in monitoring wells MW-6B, and MW-6A appear to be relatively stable.

Figure 11 shows fairly consistent declines in PCE concentrations in monitoring wells MW-14B and MW-17B. PCE concentrations in monitoring well MW-18A appear to be relatively stable. However, PCE concentrations in monitoring well MW-16B appear to be increasing over the past five years. This may be the result of contaminant migration from the more heavily affected portions of the plume towards recovery well RW-9. PCE concentrations in monitoring well MW-10A are inconsistent. Concentrations increased from 2002 through 2004 then decreased until 2007. Since monitoring well MW-10A is located near the source area, low concentrations of residual soil contamination may be leaching into the groundwater in this area causing the slight fluctuations in contaminant concentrations.

Figure 12 shows the PCE concentrations in Site recovery wells over the past five years. PCE concentrations in recovery wells RW-3 and RW-5 show consistent decreases. However, PCE concentrations in the remaining recovery wells appear fairly stable.

In March of 2007, the MPCA performed an *in-situ* anaerobic bioremediation pilot test near monitoring wells MW-4B and MW-4C. The pilot test area was selected to treat an area of fairly high PCE concentration near existing monitoring wells. The pilot test selected for the Site was designed to investigate the effects of adding fermentable substrates into a contaminated groundwater plume and to monitor the resulting VOC concentrations.

A patented solution of emulsified vegetable oil, EOS®, augmented with sodium lactate was injected into the pilot test area. The vegetable oil provides a long-term fermentation source and the sodium lactate provides a short-term boost to the existing microbial population. Additionally, EOS® contains yeast, vitamins, and trace minerals formulated to stimulate microbial activity.

The pilot test involves the injection of a five percent EOS® and sodium lactate solution via direct push technology. The pilot study injection area surrounds monitoring wells MW-4B and MW-4C and is approximately 30 feet long by 60 feet wide. The EOS solution was injected from 25 to 55 feet bgs.

Initial tests results in nearby monitoring wells show a consistent decline in PCE concentrations in monitoring wells MW-4B and MW-4C (Figure 9). PCE concentrations in monitoring well MW-4B fell from 70 ug/L (October 2006) pre-injection to a concentration of 26 ug/L in May 2007. Similarly, PCE concentrations in monitoring well MW-4C fell from 47 ug/L (October 2006) pre-injection to a concentration of 27 ug/L in May 2007.

Monitoring wells MW-21B and MW-21C were installed in 2006 to aid in evaluating the effects of the pilot test injection. They are located hydraulically downgradient from in the injection site. The pre- and post-injection PCE concentrations observed in monitoring well MW-21B were 84 ug/L (February 2007) and 69 ug/L (May 2007). The pre- and post-injection PCE concentrations observed in monitoring well MW-21C were 64 ug/L (February 2007) and 54 ug/L (May 2007).

The initial results from the injection pilot show that an increased rate of reduction of PCE and its degradation products is occurring. Groundwater monitoring will continue so as to verify the usefulness of the injection of this chemical. This test is ongoing and results will be available in October 2007.

Question A: ***Is the remedy functioning as intended by the decision documents?***

Yes, the remedial action continues to operate and function according to the design. A review of pumping records from May 1996 through June 2007 indicates that approximately 1.2 billion gallons of contaminated groundwater have been pumped through the system, treated with carbon adsorption, and discharged to the Long Prairie River. Contaminant concentrations in the groundwater have declined significantly since the groundwater extraction and treatment system was installed in 1996. However, the decline in PCE concentrations since the September 30, 2002 five-year review is minimal. A total of 17 monitoring and recovery wells still contain PCE and its degradation products at concentrations exceeding the groundwater cleanup levels established in the 1988 ROD. Thus, groundwater use restrictions remain necessary to prevent usage of the groundwater until groundwater cleanup standards are met throughout the plume.

A Health Advisory issued by MDH to not drink water withdrawn from within the Advisory Area continues in effect for the originally designated 15-block Advisory Area and the Extended Advisory Area (DAAs). Figure 3 depicts the relationship between these areas and the contaminated groundwater. The two adjacent DAAs geographically encompass the plume in all areas where residential and commercial uses occur or are anticipated to occur. The SWCA geographically encompasses both the plume and the DAAs. All but one residence and one business within the DAAs are now connected to the municipal water supply. In addition, MDH, in consultation with MPCA, has designated the SWCA which restricts the new construction, modification and permanent sealing of wells and borings in order to prevent human exposure and further contaminant spread. An IC Plan will be developed to evaluate the effectiveness of the existing restrictions.

Plume containment was evaluated during the groundwater modeling effort. The flow model indicates that the equilibrium zone of capture for the two city production wells under the peak extraction conditions does not intersect the area of impacted groundwater at the Site. The equilibrium zone of capture for the six recovery wells indicates that the remedial system is operating as designed and appears to provide adequate hydraulic capture to effectively contain the groundwater with concentrations above cleanup goals at the Site. A capture zone analysis is presented in the *Groundwater Flow and Hydraulic Capture Report (Terracon Inc., July 13, 2007).* Figures 2 through 5 presented in the July 13, 2007 report illustrate subsurface profile information. Capture zone scenarios also are illustrated in the report.

Ongoing system operation and maintenance efforts will sustain the effectiveness of response actions. Operation and maintenance costs were presented in Table 2 in Section IV of this Five-Year Review report. The annual expenses for the majority of the operating years fall well below the ROD estimate of $300,000 per year. Operating costs for fiscal year 2007 are higher than expected due to ongoing groundwater modeling efforts, recovery well cleaning/reconditioning activities, multiple carbon changeouts, and the anaerobic bioremediation pilot testing.

Optimization opportunities were investigated by use of groundwater computer modeling. The groundwater modeling effort evaluated the potential effects of varying recovery well pumping rates, alternate recovery well locations, and the effects of discontinuing recovery efforts. The *in-situ* anaerobic bioremediation pilot test is designed to evaluate the effects of injecting emulsified vegetable oil, EOS®, into the aquifer to enhance the natural attenuation process. Initial results are promising, and if verified, may reduce the clean-up time.

Question B: ***Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?***

Yes, for the soil source area, the exposure assumptions to set the cleanup levels are still appropriate. Therefore, the RAOs and cleanup levels remain appropriate. The

source contaminants have been effectively remediated and the SVE system has been decommissioned. Therefore, the RAOs and cleanup levels have already been met.

For groundwater remediation, the two remedial action objectives listed in the ROD are still appropriate and are:

- To provide a safe drinking water supply for present and future users of the Long Prairie Sand Plain aquifer; and

- To prevent the spread of contaminated groundwater to wells presently unaffected, including the Long Prairie municipal supply well #6 (CW-6).

The ARARs for groundwater as set forth in the 1988 ROD remain unchanged. As such, the EPA Safe Drinking Water Act MCLs are the groundwater cleanup criteria for the Site. Since MCLs were not available for PCE and *cis*-1,2-DCE at the time of the ROD, the cleanup criteria for groundwater that were used were the To Be Considered (TBC) Recommended Allowable Limits (RALs). The groundwater cleanup levels were the following:

- PCE – 6.6 ug/L (RAL)
- TCE – 5 ug/L (MCL)
- *cis*-1,2-DCE – 70 ug/L (RAL)
- Vinyl Chloride – 2 ug/L (MCL)

Health Risk Limits (HRLs) were first promulgated by Minnesota in 1993/1994 for contaminants that have been found in Minnesota's groundwater as a result of human activity. The MDH compared the 1993/1994 HRLs that were promulgated in the Minnesota Rules to the current EPA MCLs and found 11 chemicals for which the MCL was lower than the respective HRL values. In 2004, the MDH proposed a draft rule recommending revisions to the HRLs. MDH will be revising its 2004 draft Health Risk Limit (HRL) Rule based on new EPA guidance, stakeholder input, and peer review. The revised recommendations for HRLs will establish new HRLs. Effective July 1, 2007, the new chemical-specific HRLs corresponded to their respective MCL values.

Table 7 below provides a comparison of the chemical-specific standards for groundwater. At Long Prairie, this change affected the HRL for PCE. The technical basis for the groundwater cleanup value for *cis*-1,2-DCE has changed from the RAL (70 ug/L) to its HRL (70 ug/L); however, the value itself has not changed since the 1988 ROD as shown in Table 7 below.

Table 7 - Changes in Chemical-Specific Groundwater ARARs

Contaminant	Media	ROD Cleanup Level	ARAR		Citation/Year
PCE	Groundwater	6.6 ug/L	Previous	6.6 ug/L (RAL)	ROD, 1988
			New	5.0 ug/L (MCL, HRL)	EPA 1989 MDH, 2007
Cis-1,2-DCE	Groundwater	70ug/L	Previous	70 ug/L (RAL)	ROD, 1988
			New	70 ug/L (HRL)	MDH, 2007

Currently, 12 monitoring wells and five recovery wells have PCE at concentrations exceeding the 5 ug/L MCL and HRL. Additionally, seven monitoring wells and three recovery wells have TCE at concentrations exceeding the 5 ug/L cleanup level. The analytical results indicate *cis*-1,2-DCE and vinyl chloride cleanup criteria are not exceeded in samples collected from on-site wells.

The 1988 ROD established a treated effluent concentration for PCE of 5 ug/L at 260 gallons per minute to the Long Prairie River. The ARAR was based on the assumption that the effluent stream would mix completely with the river under the scenario of a seven consecutive day once-in-ten year low flow of 21.2 cfs, yielding a river concentration of 0.13 ug/L for PCE. In 1997, specific surface water standards were established by the MPCA Water Quality Division for the Long Prairie River and wetland at this Site. The standards are based on chronic wildlife exposure limits with no consideration for dilution.

In June 2006, the MPCA reassessed the NPDES permit outfall limits which are used for determining surface water discharge compliance for the treatment system effluent. The NPDES permit outfall limits were revised to include Section 301 (b)(2) of the Clean Water Act (CWA), which requires the application of Best Available Technology Economically Achievable (BAT) for non-conventional and toxic pollutants. The Section of the CWA requires the use of more stringent limits than those established as chronic standards if the Best Available Technology can achieve the more stringent limits, and if the more stringent limits are economically achievable using this technology. Therefore, the discharge water pumped from the treatment plant must comply with the NPDES permit outfall limits, the chronic standards, and the maximum standards listed below in Table 8. Generally, the most stringent of these limits are the BAT limits.

Table 8 - Changes in Chemical-Specific Surface Water ARARs

Contaminant	Media	Ground Water Discharge NPDES Permit Outfall Limit		Citation/Year	Wetlands – Surface Water Chronic Standards and Criteria (1)	Long Prairie River – Surface Water Maximum Standards and Criteria (1)
PCE	Surface water	Previous	5 ug/L	ROD (page 45), 1988	8.9	928
		New	5 ug/L	NPDES, 2006		
TCE	Surface water	Previous	120 ug/L	Not provided in ROD, but established by MPCA, 1997.	120	6988
		New	5 ug/L	NPDES, 2006		
cis-1,2-DCE	Surface water	Previous	---	Not provided in ROD or in 1997 by MPCA	529	5288
		New	70 ug/L	NPDES, 2006		
Vinyl Chloride	Surface water	Previous	9.8 ug/L	Not provided in ROD, but established by MPCA, 1997	9.2	920
		New	----	MDH, 2006 (1)		

NOTE: All chemical concentrations in units of ug/L or PPB

(1) The point of compliance for groundwater discharging to a surface water body is the monitoring well prior to surface water discharge.

Analytical results of the discharges to surface water, collected from the lag tank effluent sample port, show contaminant concentrations below laboratory reporting limits. Thus, the discharge meets the site-specific cleanup objectives for surface water. To achieve this objective, the groundwater recovery system and GAC plant operates at a design flow of 250 gallons per minute (gpm) of impacted water from six Site recovery wells. The MDNR appropriations permit sets the maximum allowable rate of groundwater extraction from the aquifer at 280 gpm. The rate of discharge into the Long Prairie River is set by the National Pollution Elimination System (NPDES) permit requirements at maximum design rate of 0.36 million gallons per day (mgd). The NPDES permit requirements include reporting the total volume discharged during the quarter and reporting the results of quarterly monitoring for *cis*-1,2-DCE, TCE, and PCE. The PCE and TCE concentrations must each be below 5 ug/L to satisfy the NPDES permit requirements.

Cleanup criteria for soil and air have not been modified since the 1988 ROD. The soil remediation met the necessary cleanup objective prior to removal of the SVE system in 2000. No changes in the exposure pathways have occurred since the last five-year review in 2002. The affected area is located within the city of Long Prairie and is primarily residential.

Question C: ***Has any other information come to light that could question the protectiveness of the remedy?***

No additional information has been discovered that could call into question the protectiveness of the remedy.

VIII. ISSUES

The following issues were identified as a result of this five-year review. The issues directly affecting the protectiveness of the remedy are described in Table 9. Those issues which merit further attention and follow up by the agencies, but do not directly affect the remedy's protectiveness are provided in Table 10.

Table 9 - Issues Affecting Protectiveness

Issue ID	Issue	Currently Affects Protectiveness (Y/N)	Affects Future Protectiveness (Y/N)
1	Compliance with effective ICs needs to be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.	N	Y

Table 10 - Issues Warranting Attention

Issue ID	Issue
1	An agency decision document is needed to evaluate the potential adoption of new cleanup levels for groundwater and surface water contaminants of concern.
2	Additional information is needed about the future conditions under which capture would need to be reassessed and about the time needed to achieve cleanup levels.
3	The groundwater remediation rate has slowed considerably since the last five-year review. Continue optimization efforts, such as the pilot investigation of substrate injection to enhance biodegradation of contaminants.
4	One resident will not connect to municipal water and is using a private well containing contaminant levels that are currently below the MCL and have continued to decrease.

IX. RECOMMENDATIONS AND FOLLOW-UP ACTIONS

The recommended follow-up actions and the estimated milestones for resolving the issues affecting the protectiveness of the remedy are provided in Table 11. Similarly, recommendations and follow-up measures are also provided in Table 12 for addressing those issues that do not affect the protectiveness of the remedy, but do require some further attention.

Table 11 - Recommendations and Follow-Up Actions for Issues Affecting Protectiveness

Issue ID	Issues	Recommendations/ Follow-up Actions	Party Responsible	Over-sight Agency	Milestone Date	Affects Protectiveness	
						Current	Future
1	Compliance with effective ICs needs to be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.	An IC Plan will be developed. The Plan will incorporate the results of the evaluation activities and plan for additional IC activities as needed. These activities shall include: evaluating the effectiveness of the SWCA designation and implementation; evaluating the effective-ness of the MDH Health Advisories; determining whether additional ICs are needed and, if so, whether an ESD is required to memorialize them; and, strategizing for long-term stewardship.	MPCA/EPA	EPA	IC Plan date: March 31, 2008	N	Y

Table 12 - Recommendations and Follow-Up Actions for Issues Warranting Attention

Issue ID	Issues	Recommendations/ Follow-up Actions	Party Responsible	Oversight Agency	Milestone Date
1	An agency decision document is needed to evaluate potential new cleanup levels for ground-water and surface water contaminants as part of the remedy.	Prepare appropriate decision document to evaluate potential new cleanup levels for groundwater and surface water.	EPA	EPA	June 30, 2009
2	Additional information is needed about the future conditions under which capture would need to be reassessed and about the time needed to achieve cleanup levels.	Groundwater modeling is underway to better learn the dynamics of the contamination and the effects of pumping on the long-term cleanup goals for the Site. A recommended approach is to install a nested monitoring well near CW-3; and, install water level transducers in this nested well, and in an appropriate nested well close to CW-6.	MPCA/ EPA	MPCA/ EPA	Modeling completion: October 2007. Monitoring well completion: September 2008.
3	Groundwater remediation rate has slowed considerably since the last five-year review.	An *in-situ* bioremediation pilot test was conducted to determine if natural attenuation can be enhanced. The test results need to be evaluated in order to propose another pilot test location.	MPCA	MPCA/ EPA	October 2007
4	One resident will not connect to municipal water and is using a private well containing contaminant levels that are currently below the MCL and have continued to decrease.	Continue to monitor this well and to track private well use.	MPCA/ EPA	MPCA/ EPA	Ongoing

X. PROTECTIVENESS STATEMENTS

OU1 (Groundwater)

The remedy for OU1 currently protects human health and the environment because the groundwater extraction and treatment system has resulted in containment of the groundwater plume at the Site and a decline in contaminant concentrations. Since contaminant concentration declines have been minimal since the last five-year review in 2002, MPCA initiated an In-Situ Anaerobic Bioremediation pilot test in May 2007. Results thus far show a decrease in PCE levels. A report on the pilot test is expected in October 2007. Additionally, although not required by the ROD, a Health Advisory Area was identified by the MDH in 1983 and an Extended Health Advisory Area was identified by MDH in 1994 (residents are informed and apprised by the State of Minnesota of the Health Advisories on a continuing basis via public notices and in the five-year review process). Also, in 2007 MDH designated a SWCA which provides for controls on the drilling or alteration of public and private water supply wells, and monitoring wells in an area where groundwater contamination has, or may, result in risks to the public health.

Long-term protectiveness requires compliance with effective ICs. Compliance with effective ICs will be ensured by implementing, maintaining, and monitoring effective ICs in addition to the Site remedy components. To that end, the following actions need to be taken: An IC Plan will be developed to incorporate the results of IC evaluation activities and evaluate the adequacy of the existing ICs to assure they are functioning as intended and, if necessary, plan for additional IC activities such as implementing additional or corrective measures, along with strategizing to ensure long-term stewardship of the Site that includes maintaining, monitoring, and certifying the ICs at the Site.

OU2 (Soils)

The remedy for OU2 currently protects human health and the environment because the soil venting system operated full time from 1997 through 1999 and was removed in 2000 when the soil Remedial Action Objectives were met. Because the contamination concentration in the soils was reduced to ROD cleanup levels, this portion of the remedy offers long-term protection from contaminant leaching to the aquifer and from human health exposure to the PCE in the source area.

OU3 (Alternate Water Supply)

The remedy for OU3 is expected to be or is protective of human health and the environment, and in the interim, exposure pathways that could result in unacceptable risks are being controlled. This has been accomplished by offering an alternate water supply to all private wells in the groundwater contamination area.

Site-Wide

(OU1 and OU2 construction completed August 14, 1997, OU3 construction complete May 1997). Because the remedial actions at all OUs are protective, the Site is currently protective of human health and the environment. Long-term protectiveness requires compliance with effective ICs. Compliance with effective ICs will be ensured by evaluating the current ICs, determining their effectiveness, determining if other ICs need to be added, and developing a strategy to ensure long term stewardship of the Site. Ensuring long term stewardship requires maintaining, monitoring, and certifying ICs at the Site in conjunction with the other Site remedy components.

XI. NEXT REVIEW

The next five-year review for the Long Prairie Groundwater Contamination Superfund Site is required five years from the signature date of this review.

FIGURES

APPENDICES

FIGURES

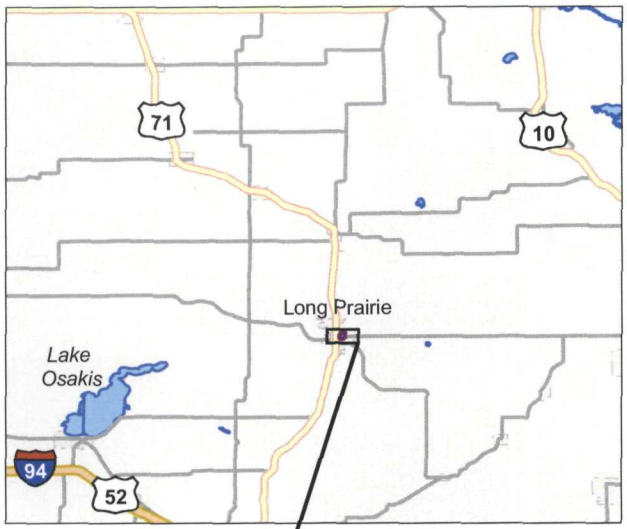
Site Location

Superfund
U.S. Environmental Protection Agency

Long Prairie Groundwater Contamination
Todd County, MN

MND980904072

State



County

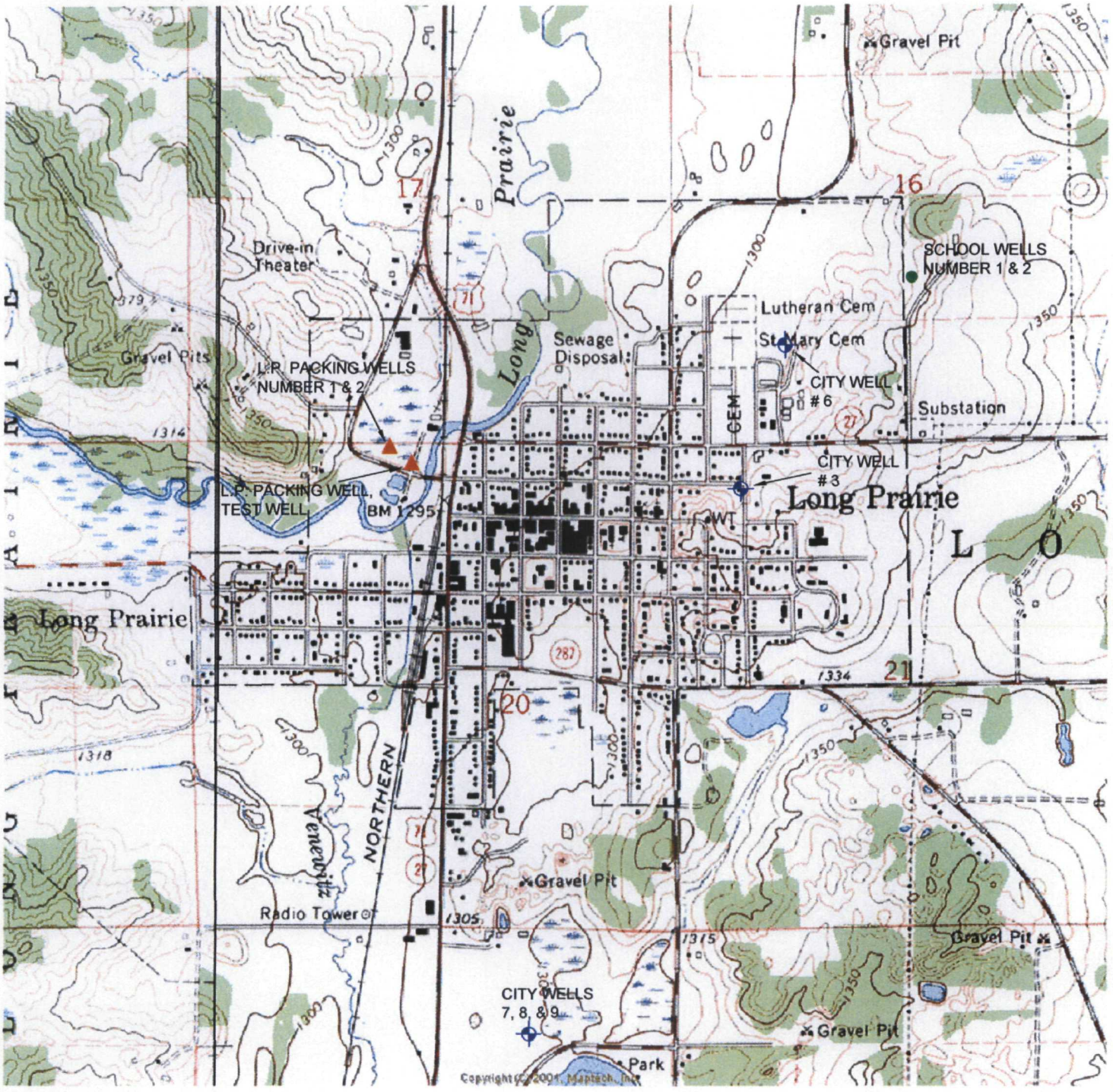
Site

Figure 1

Produced by Sarah Backhouse
U.S. EPA Region 5 on 7/23/07
Image Date: 2003

N

GEOS
Groundwater Evaluation and Optimization System



LEGEND

- SCHOOL WELLS LOCATION
- CITY WELLS LOCATION
- L.P. PACKING WELLS LOCATION

2000 0 2000

APPROXIMATE SCALE: 1" = 2000'

N

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

NEW WELL LOCATION MAP
LONG PRARIE GROUNDWATER REMEDIATION SYSTEM

LONG PRARIE, MN
MPCA

Project Mngr:	DJW	Terracon	Project No. 41037012
Designed By:	JTH		Scale: AS SHOWN
Checked By:	JTH	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 7/11/07
Approved By:	DJW		Drawn By: MTO (41)
File Name:	41037012nwl.dwg TOPO		Figure No. 2

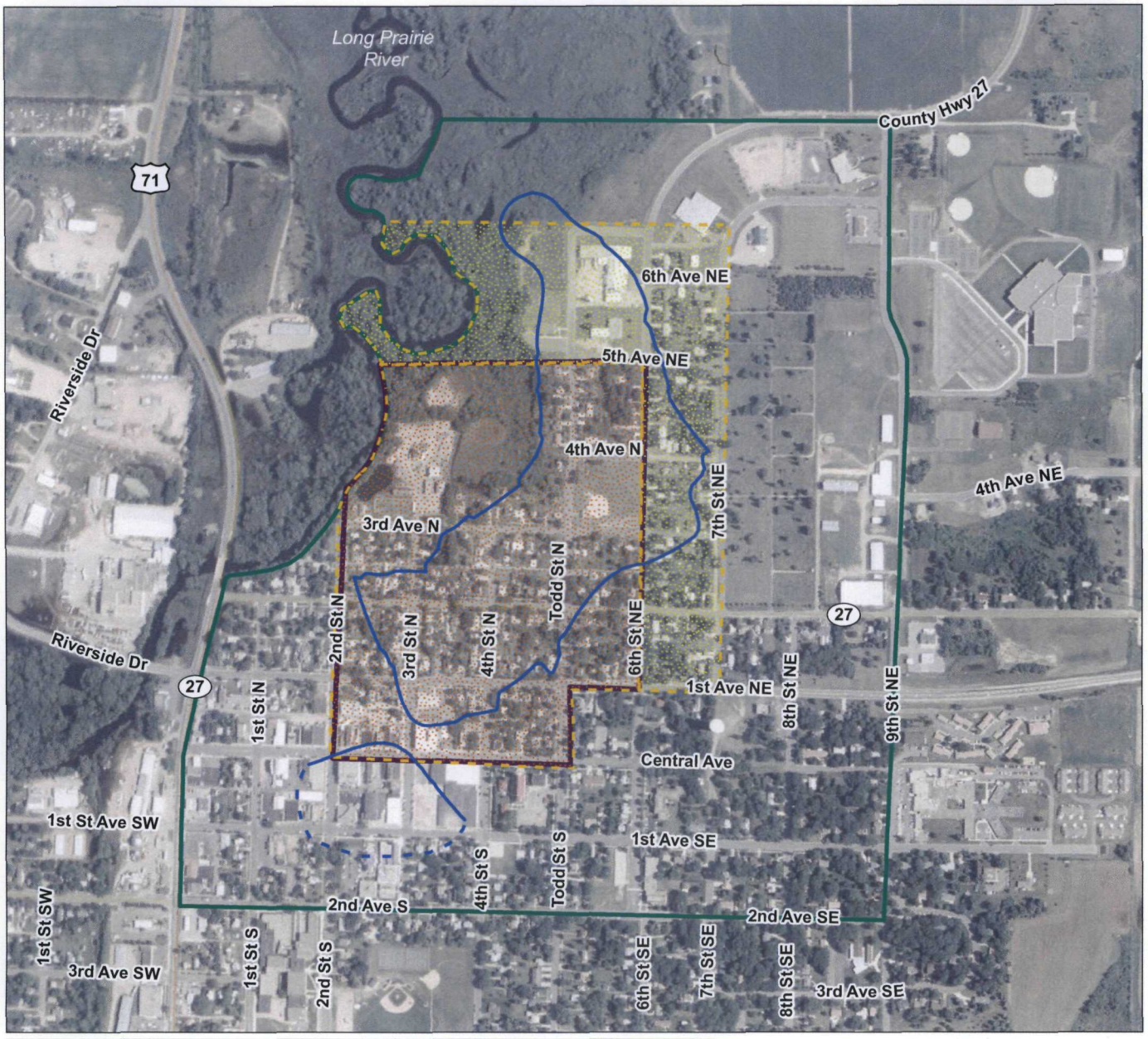
Institutional Control (IC) Review

Areas Depicting Required and Implemented Institutional Controls

Superfund
U.S. Environmental Protection Agency

Long Prairie Groundwater Contamination
Todd County, MN

MND980904072



Legend

- Originally designated Long Prairie Groundwater Contamination Site Area (1988)
- PCE UCL Plume Outline at 5 ug/l (dashed where approximate) - Required IC
- Original Health Advisory Area (1983) - Implemented IC*
- Extended Health Advisory Area (1994) - Implemented IC*
- Long Prairie Special Well Construction Area (2007) - Implemented IC**

N

0 600 1,200 Feet

GEOS
Groundwater Evaluation and Optimization System

*Advisory issued by the MN Department of Health (MDH). Private well users connected to the municipal water supply.

** See the MDH Memorandum; Subject: *Notice of Designation of a Special Well Construction Area in the City of Long Prairie, Todd County, Minnesota* (2006), for details regarding well and boring construction, repair, and sealing within the SWCA.

EPA Disclaimer: Please be advised that areas depicted in the map have been estimated. The map does not create any rights enforceable by any party. EPA may refine or change this data and map at any time.

Figure 3

Productd by Sarah Backhouse
U.S. EPA Region 5 on 8/9/07
Image Date: 2003

Long Prairie Private and Monitoring Well Locations

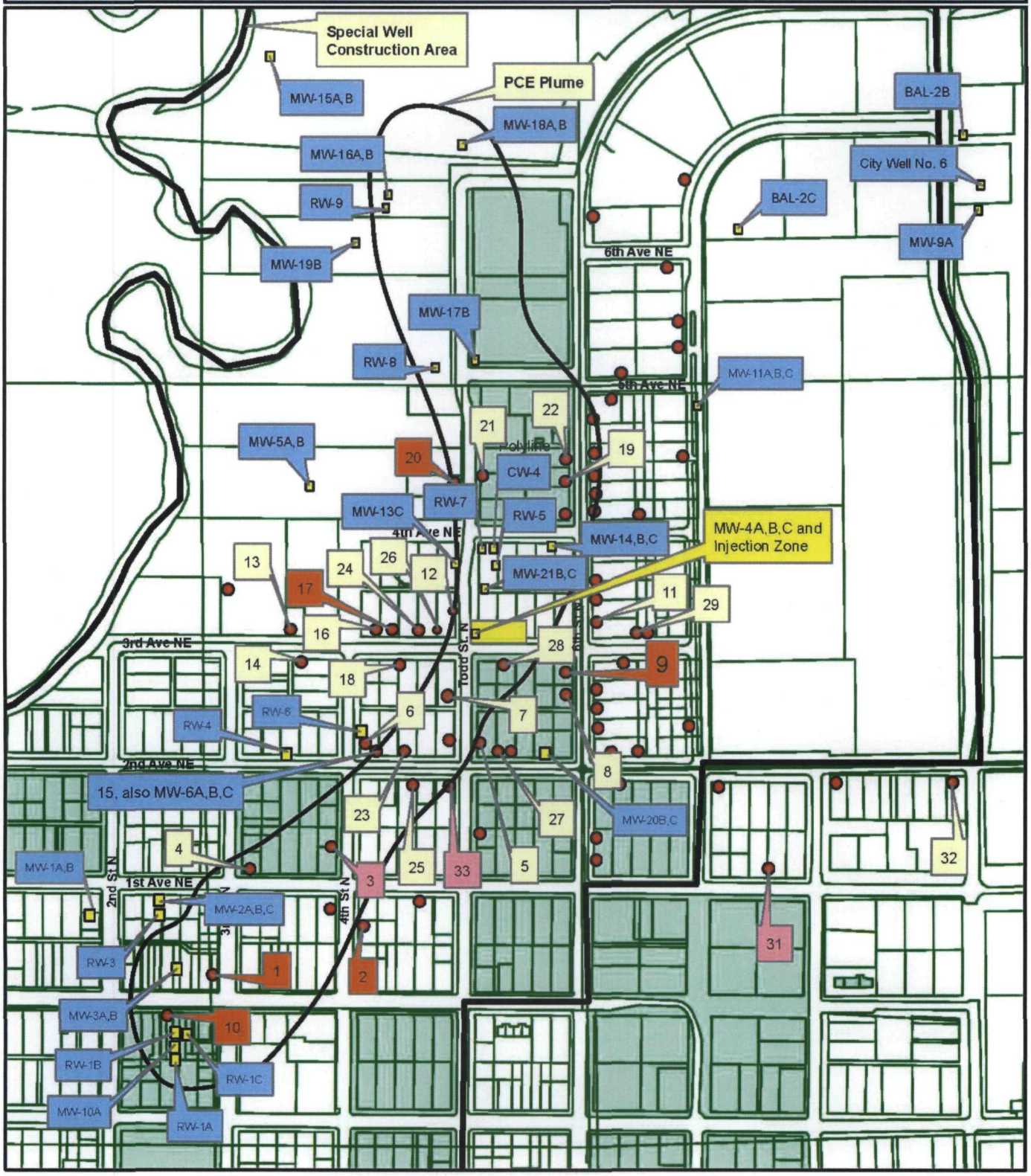
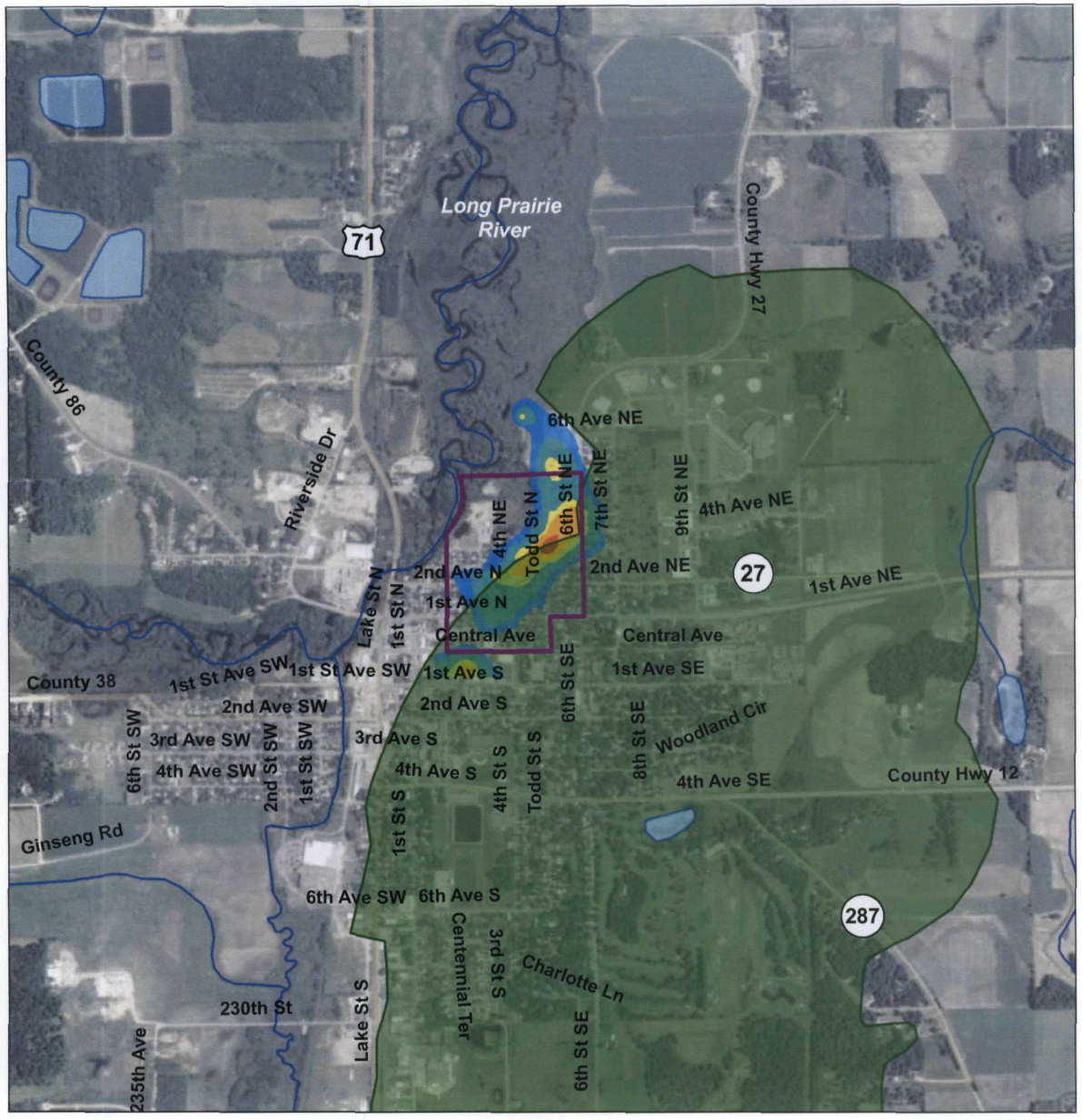


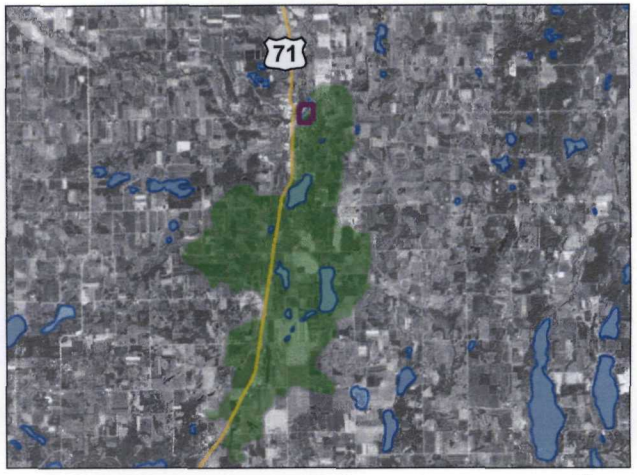
Figure 4

Long Prairie Groundwater Contamination
Todd County, MN
MND980904072



0 1,500 3,000 Feet

Figure 5



0 3 6 Miles

N

Legend

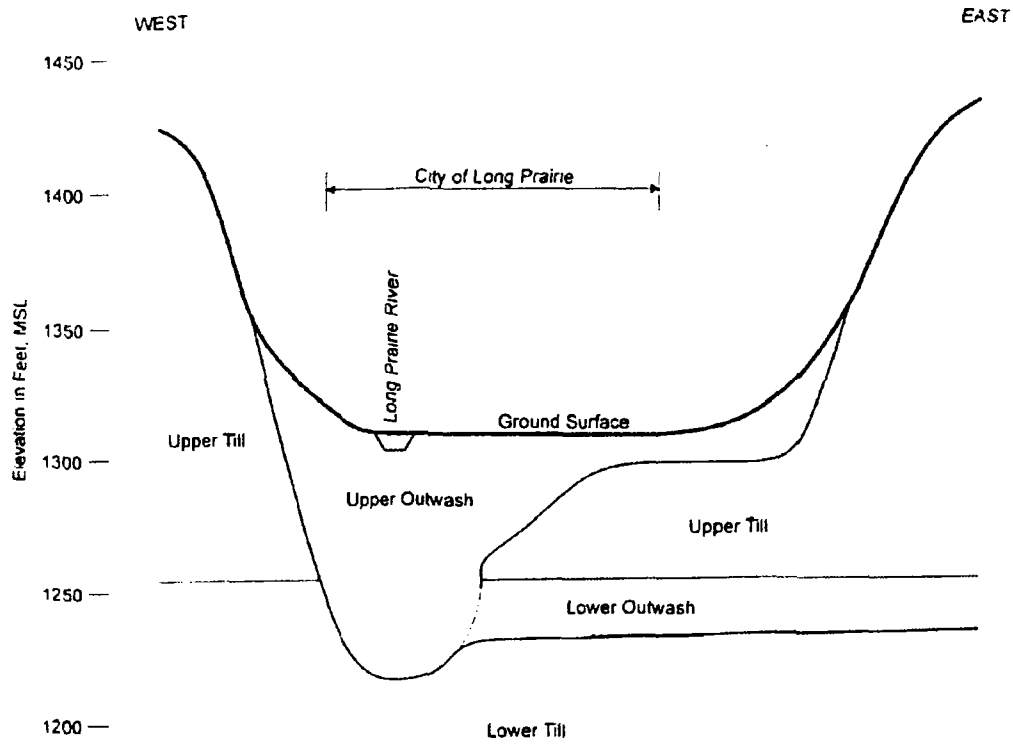
- Long Prairie Groundwater Site
- Long Prairie Wellhead Protection Area (Time of Travel: 10 years)
- Water Features

PCE UCL Plume

- >5 ug/l
- >10 ug/l
- >30 ug/l
- >50 ug/l
- >100 ug/l

Produced by Sarah Backhouse
U.S. EPA Region 5 on 7/26/07

GEOS
Groundwater Evaluation and Optimization System



Not to Scale with Vertical Exaggeration

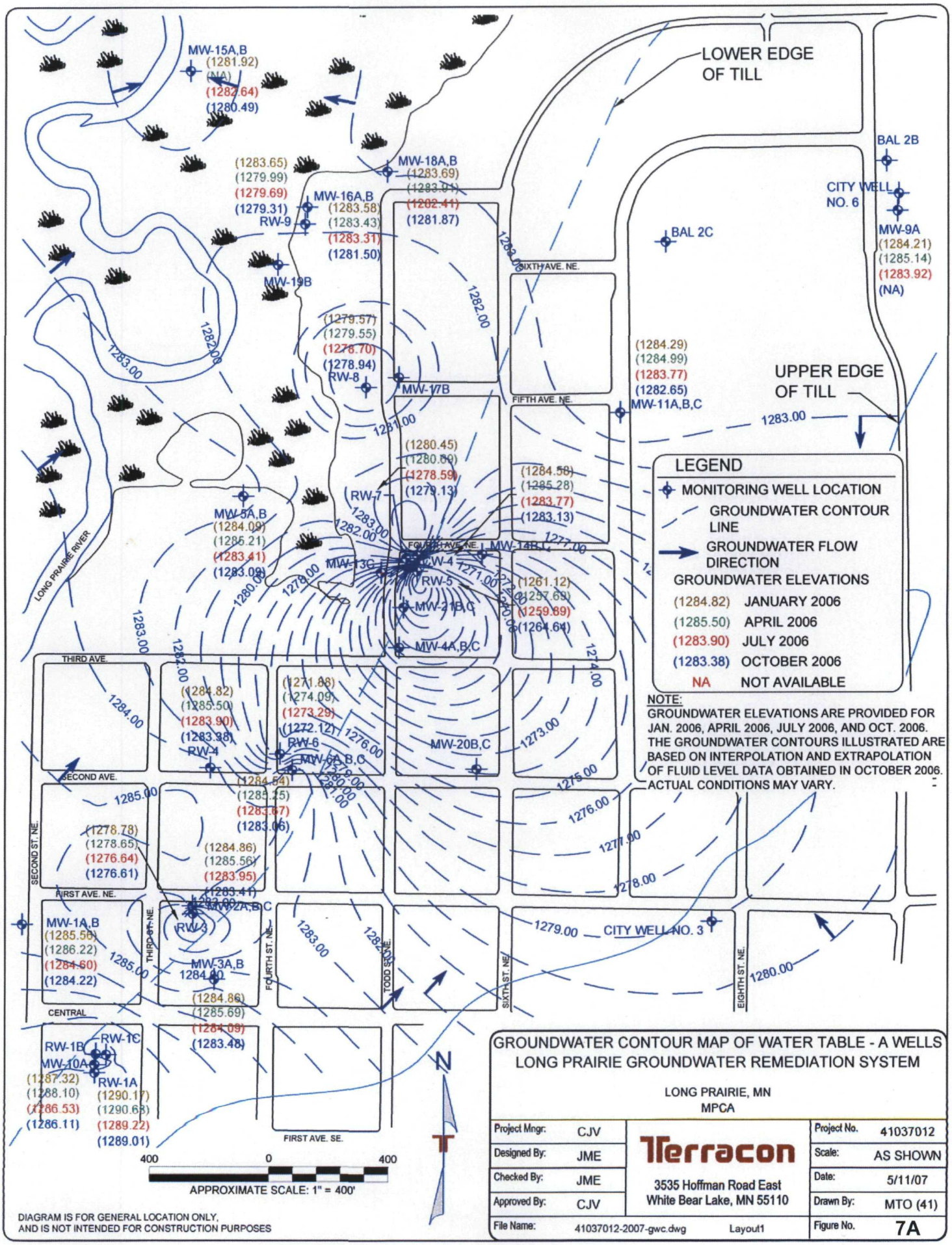
NOTE:
GENERALIZED BASE MAP OBTAINED FROM BARR ENGINEERING 2001-2002 ANNUAL REPORT.

DIAGRAM IS FOR GENERAL LOCATION ONLY.
AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

LONG PRAIRIE EAST-WEST CROSS SECTION
LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM

LONG PRAIRIE, MN
MPCA

Project Mngr:	DJW	Terracon	Project No.: 41037012
Designed By:	MJB		Scale: NO SCALE
Checked By:	MJB	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/23/04
Approved By:	DJW		Drawn By: CDR (41)
File Name:	41037012.dwg	Layout1	Figure No 6

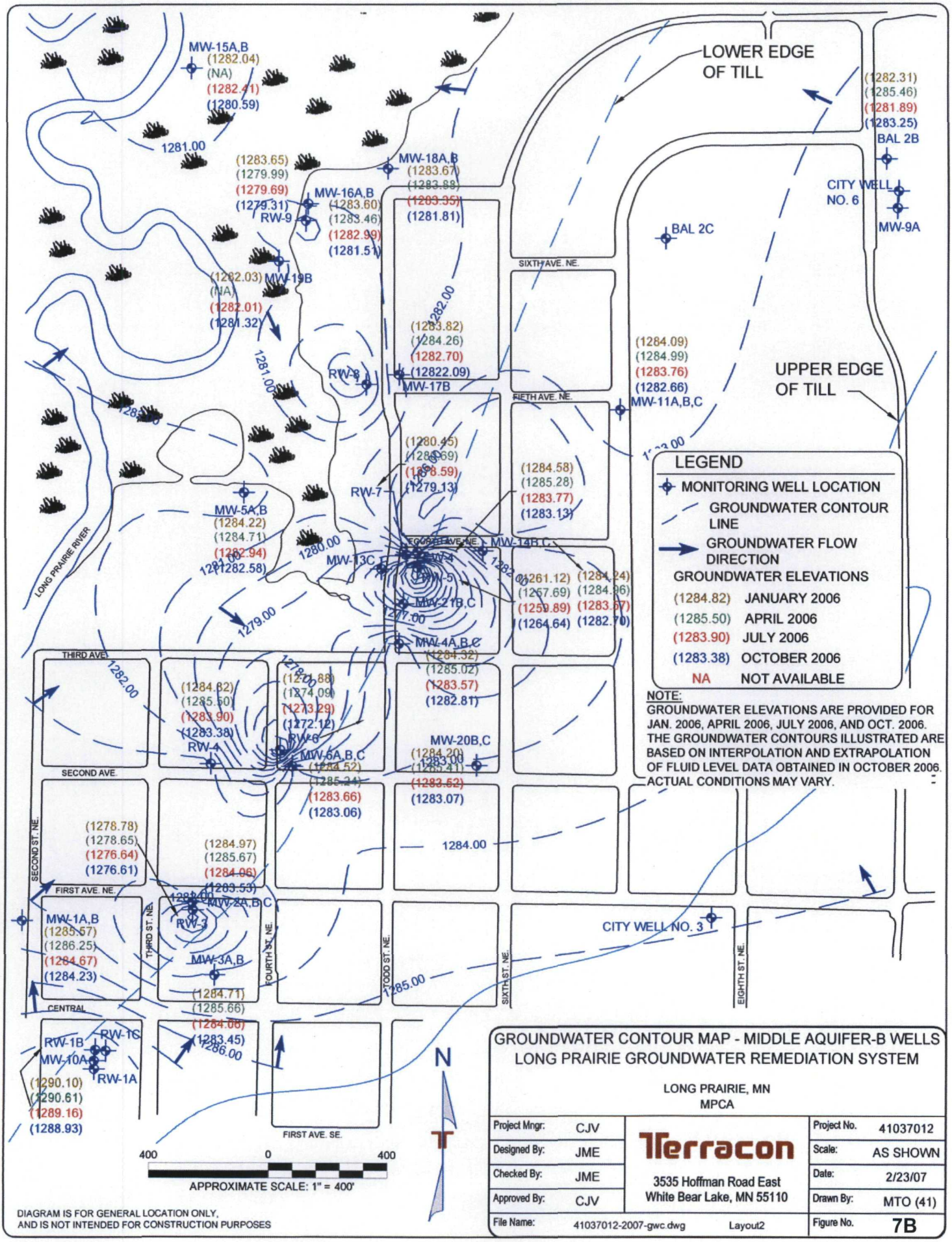


GROUNDWATER CONTOUR MAP OF WATER TABLE - A WELLS
LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM

LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Project No.	41037012
Designed By:	JME	Scale:	AS SHOWN
Checked By:	JME	Date:	5/11/07
Approved By:	CJV	Drawn By:	MTO (41)
File Name:	41037012-2007-gwc.dwg Layout1	Figure No.	7A

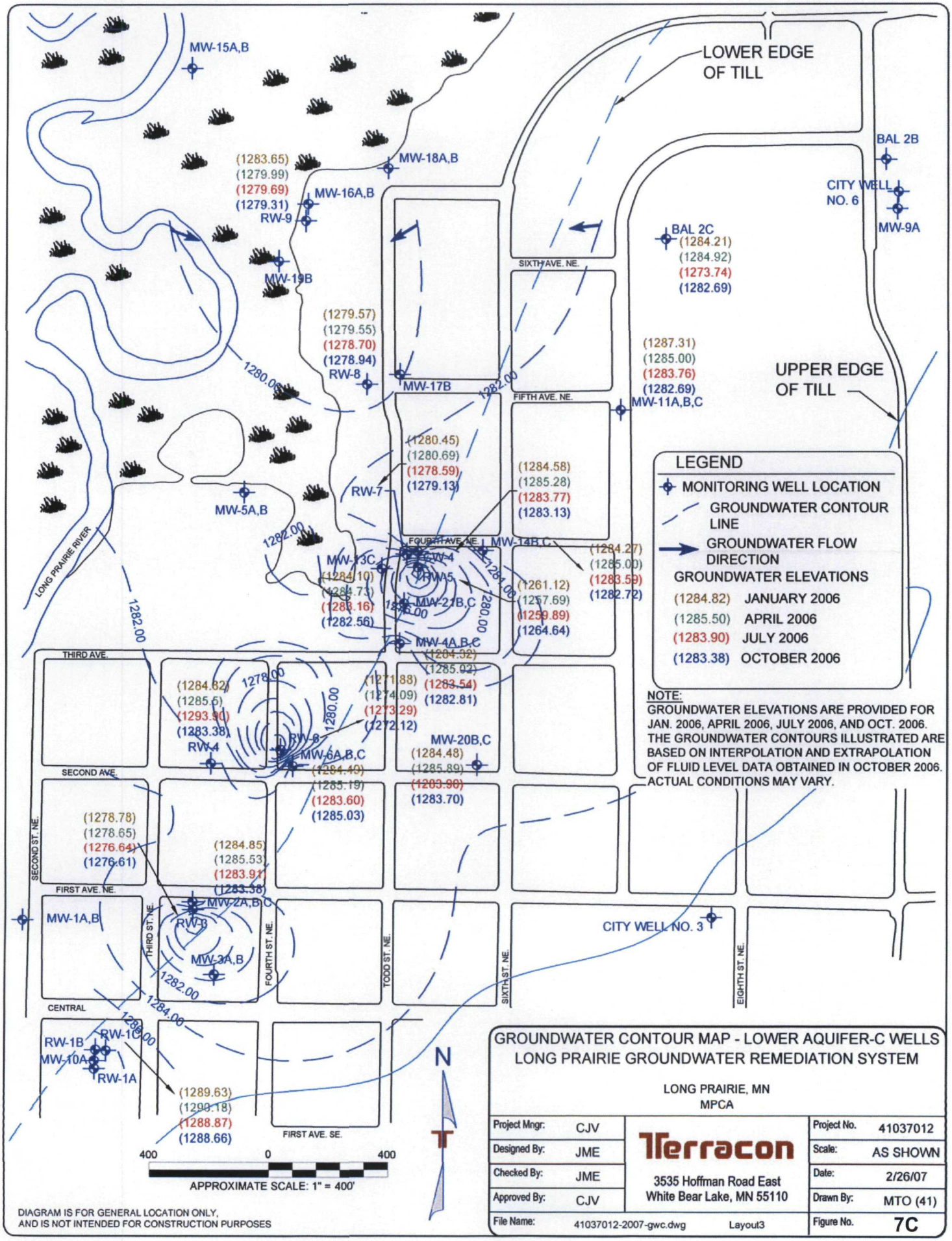
Terracon
3535 Hoffman Road East
White Bear Lake, MN 55110



GROUNDWATER CONTOUR MAP - MIDDLE AQUIFER-B WELLS
LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM

LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Scale: AS SHOWN
Checked By:	JME		Date: 2/23/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012-2007-gwc.dwg Layout2		Figure No. 7B



GROUNDWATER CONTOUR MAP - LOWER AQUIFER-C WELLS
LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM

LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME		Scale: AS SHOWN
Checked By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/26/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012-2007-gwc.dwg Layout3		Figure No. 7C

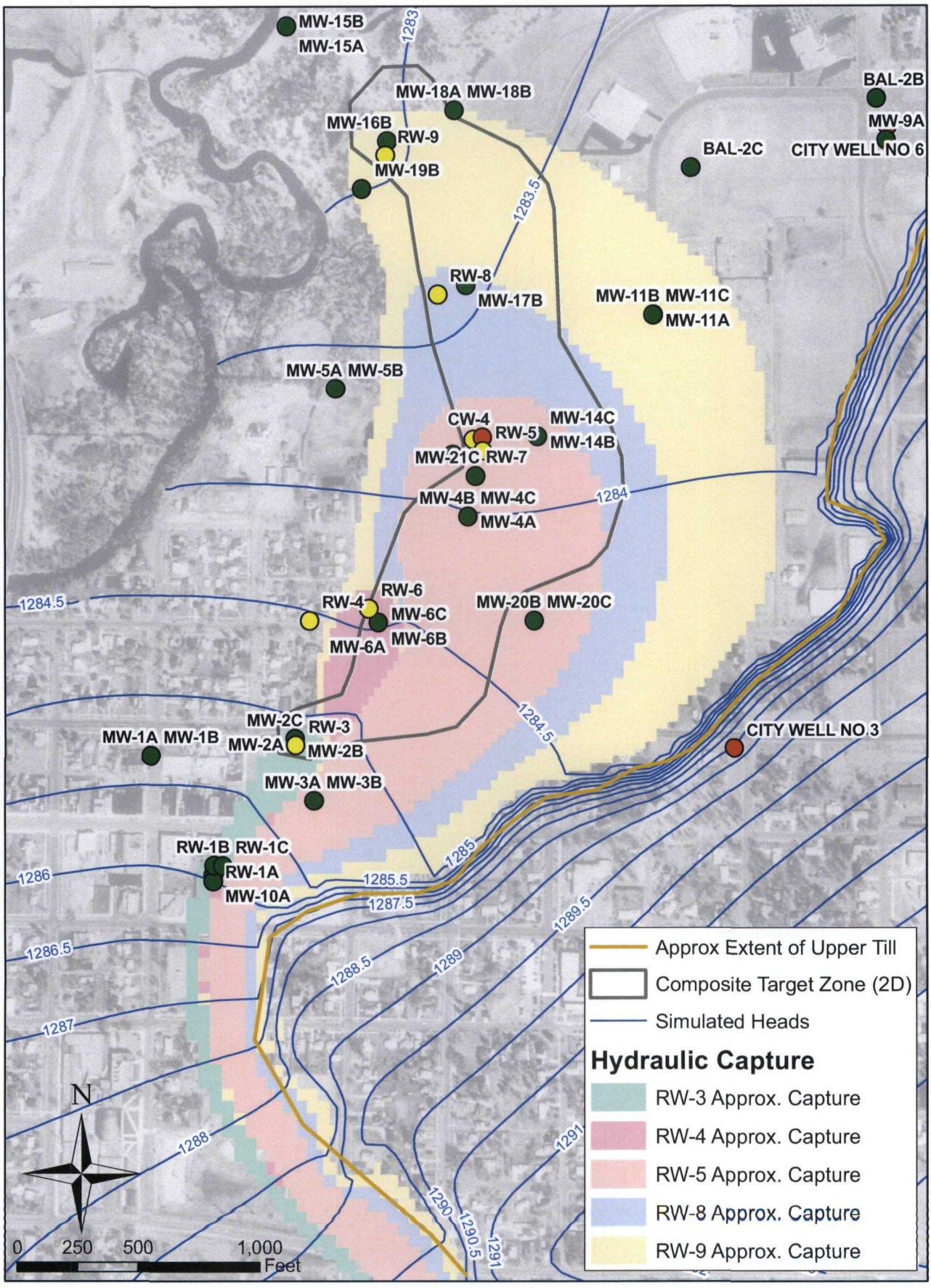
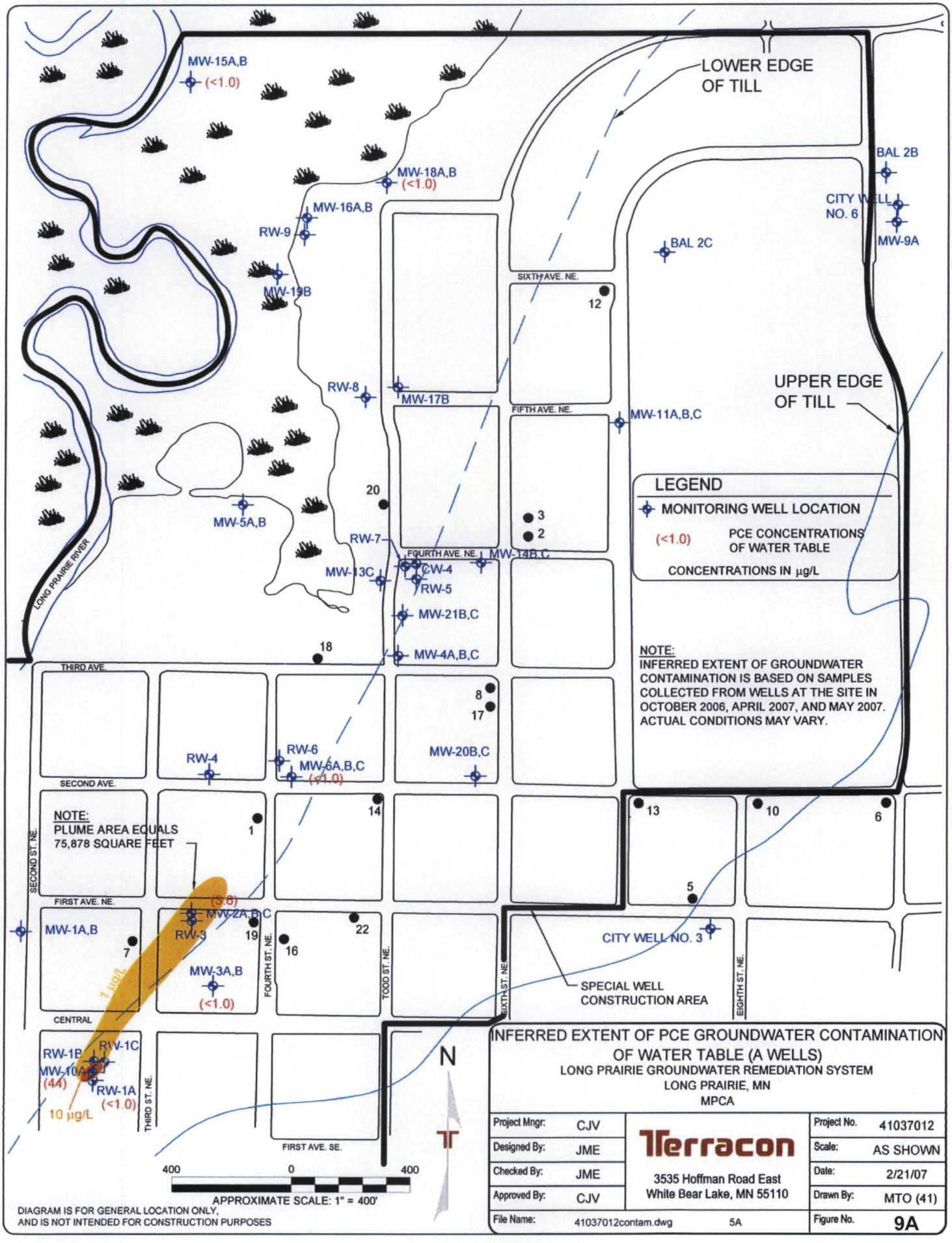


Figure 8 - Simulated Hydraulic Capture with Long Term Average City Well and Remedy Pumping: Upper Outwash

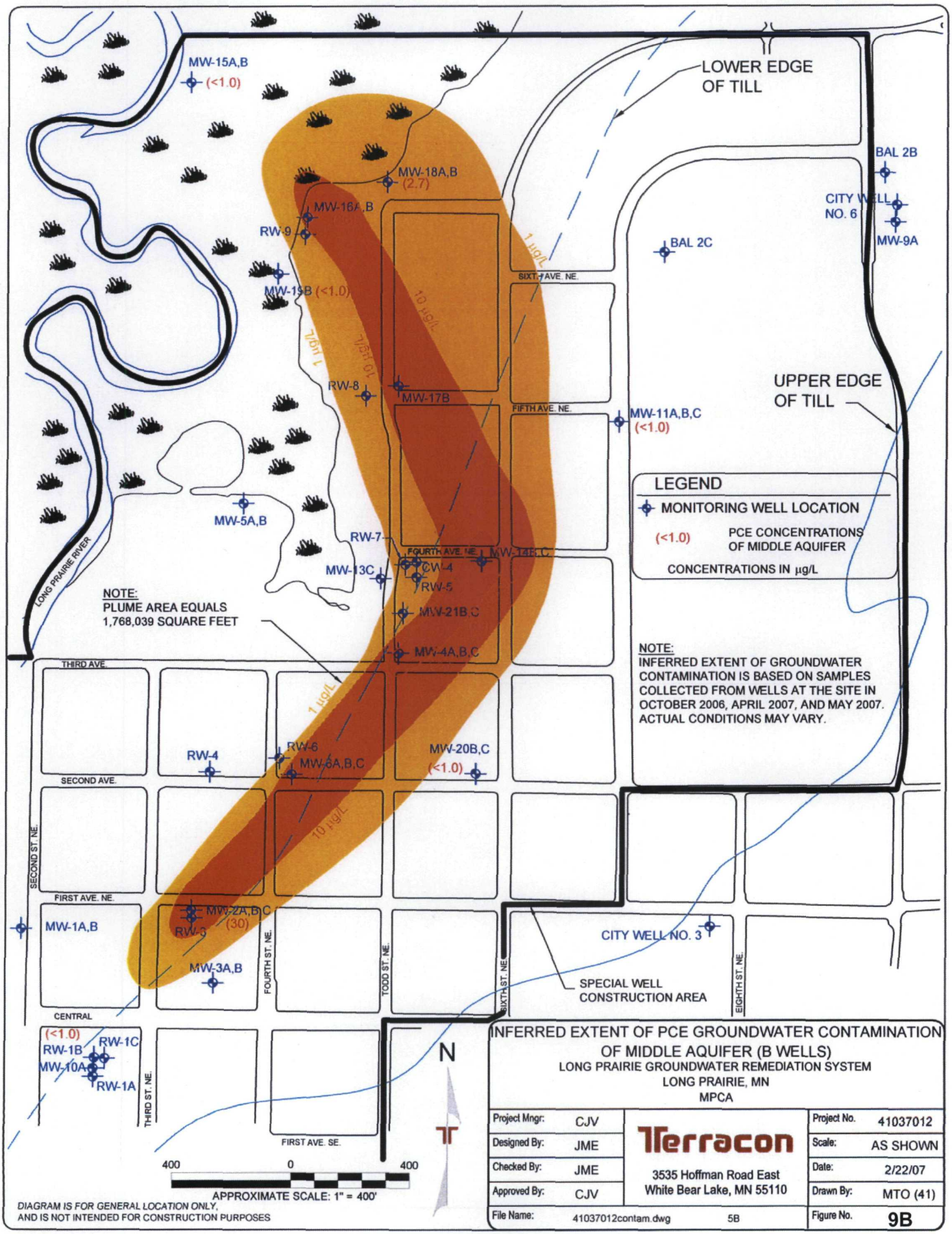


INFERRED EXTENT OF PCE GROUNDWATER CONTAMINATION OF WATER TABLE (A WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Project No.	41037012
Designed By:	JME	Scale:	AS SHOWN
Checked By:	JME	Date:	2/21/07
Approved By:	CJV	Drawn By:	MTO (41)
File Name:	41037012contam.dwg 5A	Figure No.	9A

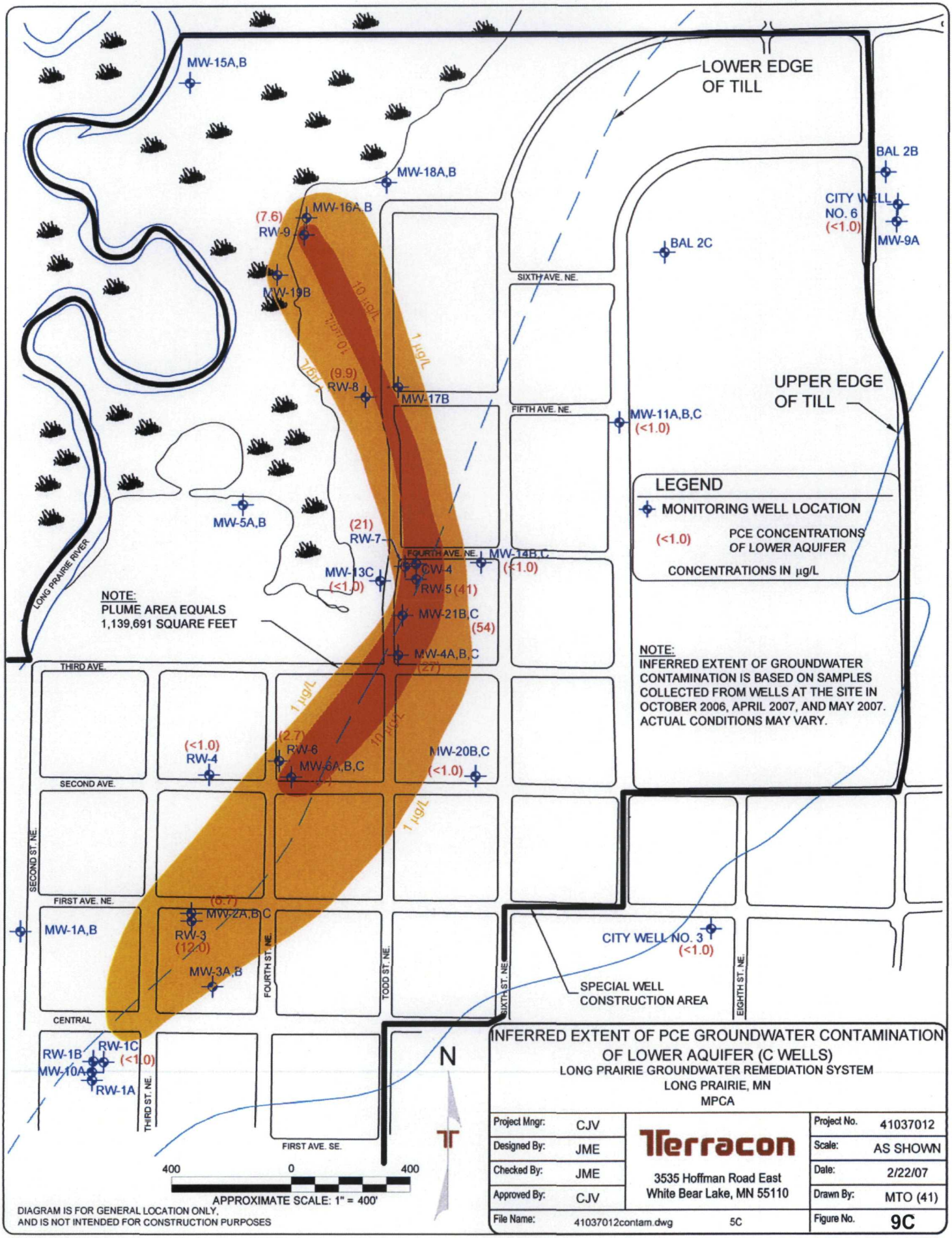
Terracon
3535 Hoffman Road East
White Bear Lake, MN 55110



INFERRED EXTENT OF PCE GROUNDWATER CONTAMINATION OF MIDDLE AQUIFER (B WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME		Scale: AS SHOWN
Checked By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/22/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012contam.dwg 5B		Figure No. 9B

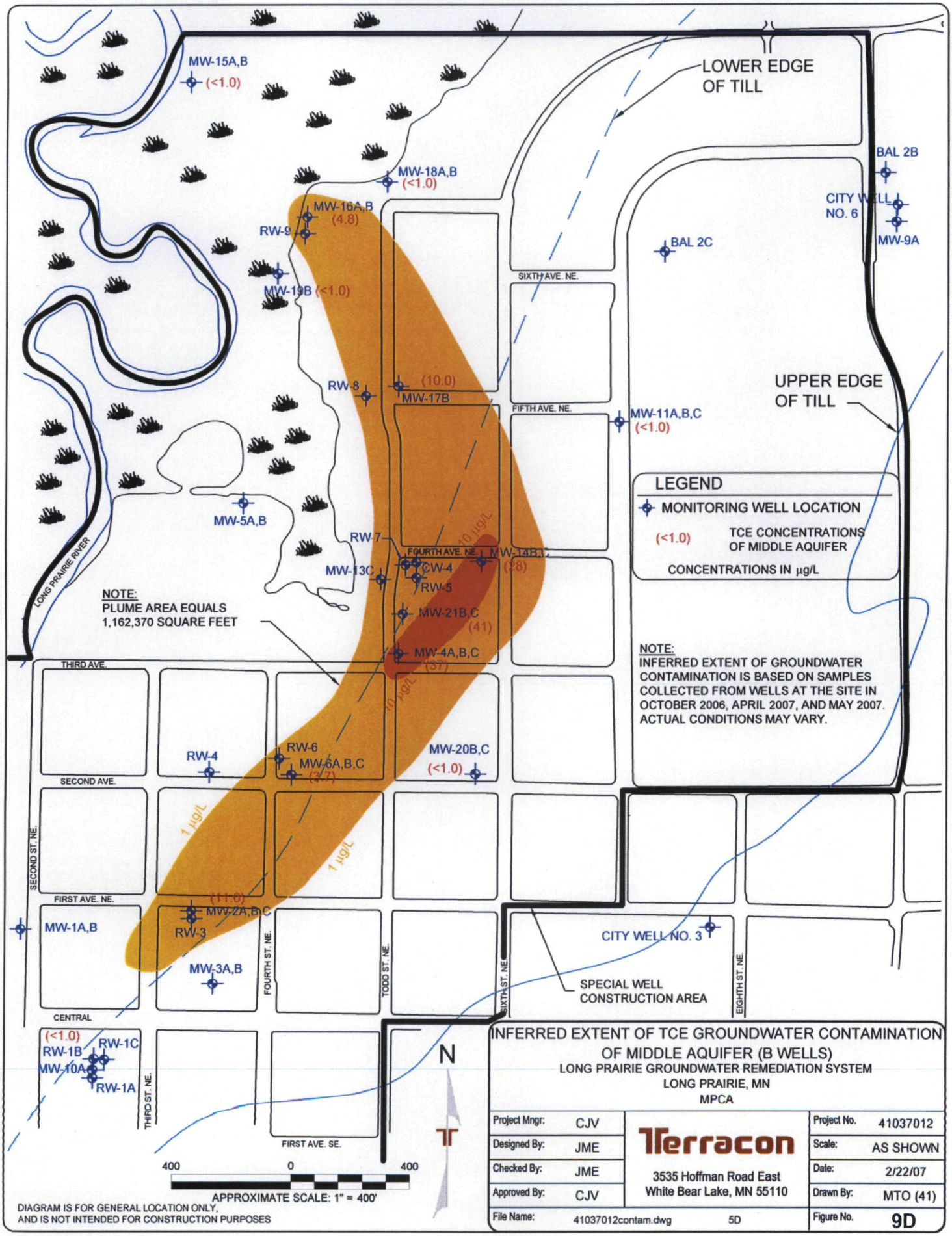


INFERRED EXTENT OF PCE GROUNDWATER CONTAMINATION OF LOWER AQUIFER (C WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Project No.	41037012
Designed By:	JME	Scale:	AS SHOWN
Checked By:	JME	Date:	2/22/07
Approved By:	CJV	Drawn By:	MTO (41)
File Name:	41037012contam.dwg 5C	Figure No.	9C

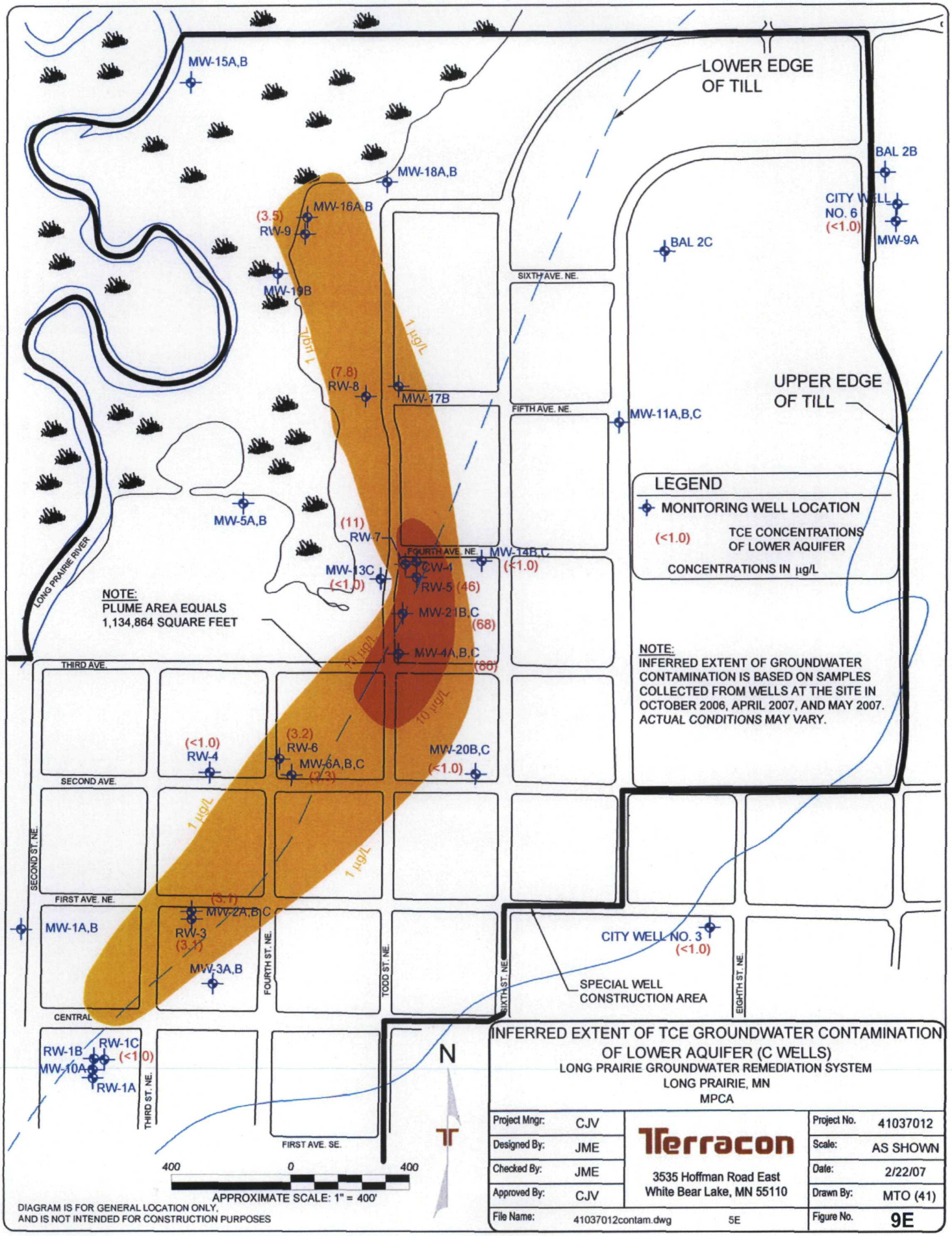
Terracon
3535 Hoffman Road East
White Bear Lake, MN 55110



INFERRED EXTENT OF TCE GROUNDWATER CONTAMINATION OF MIDDLE AQUIFER (B WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

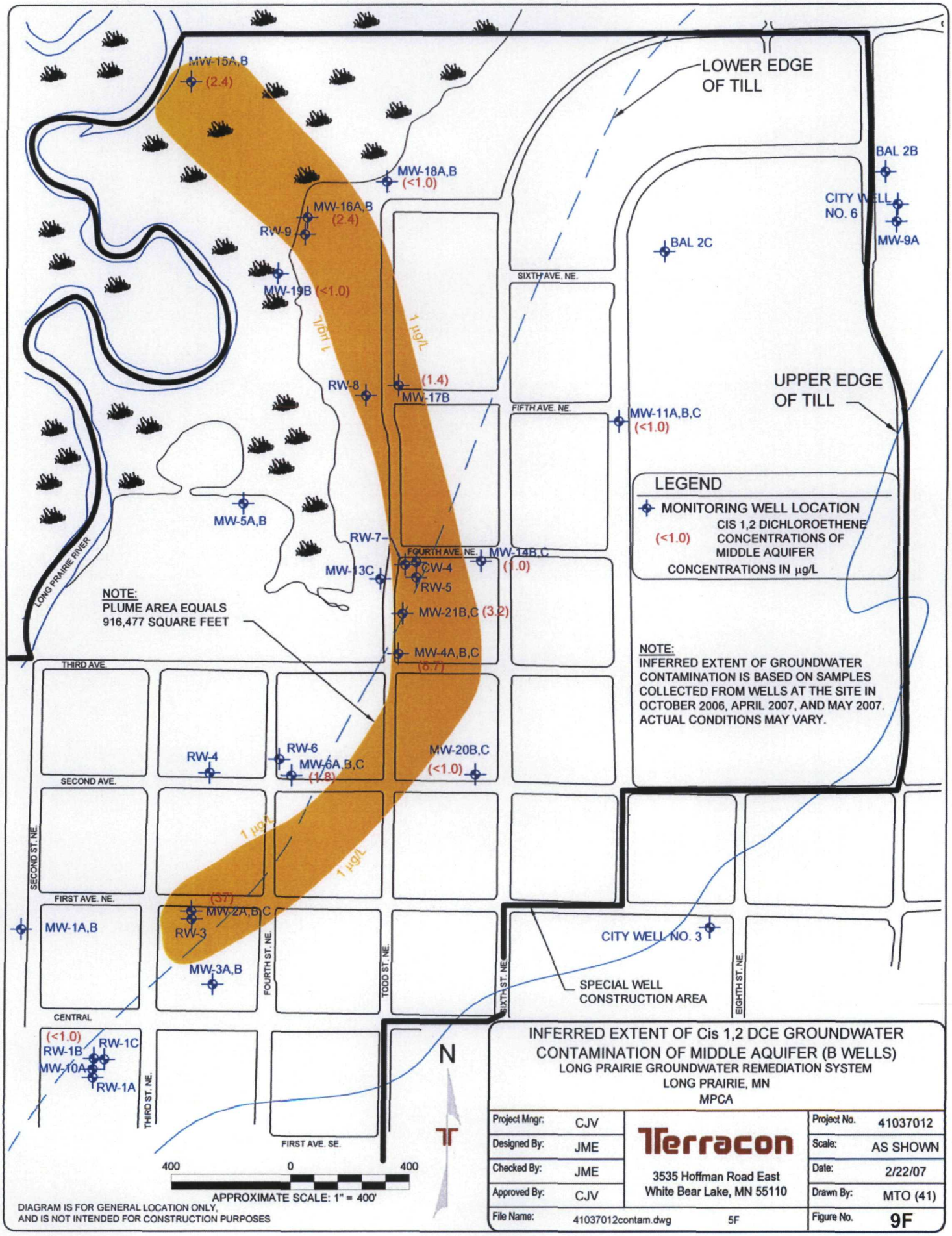
Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME		Scale: AS SHOWN
Checked By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/22/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012contam.dwg 5D		Figure No. 9D



INFERRED EXTENT OF TCE GROUNDWATER CONTAMINATION OF LOWER AQUIFER (C WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME		Scale: AS SHOWN
Checked By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/22/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012contam.dwg 5E		Figure No. 9E



INFERRED EXTENT OF Cis 1,2 DCE GROUNDWATER CONTAMINATION OF MIDDLE AQUIFER (B WELLS)

LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA

Project Mngr:	CJV	Terracon	Project No. 41037012
Designed By:	JME		Scale: AS SHOWN
Checked By:	JME	3535 Hoffman Road East White Bear Lake, MN 55110	Date: 2/22/07
Approved By:	CJV		Drawn By: MTO (41)
File Name:	41037012contam.dwg 5F		Figure No. 9F

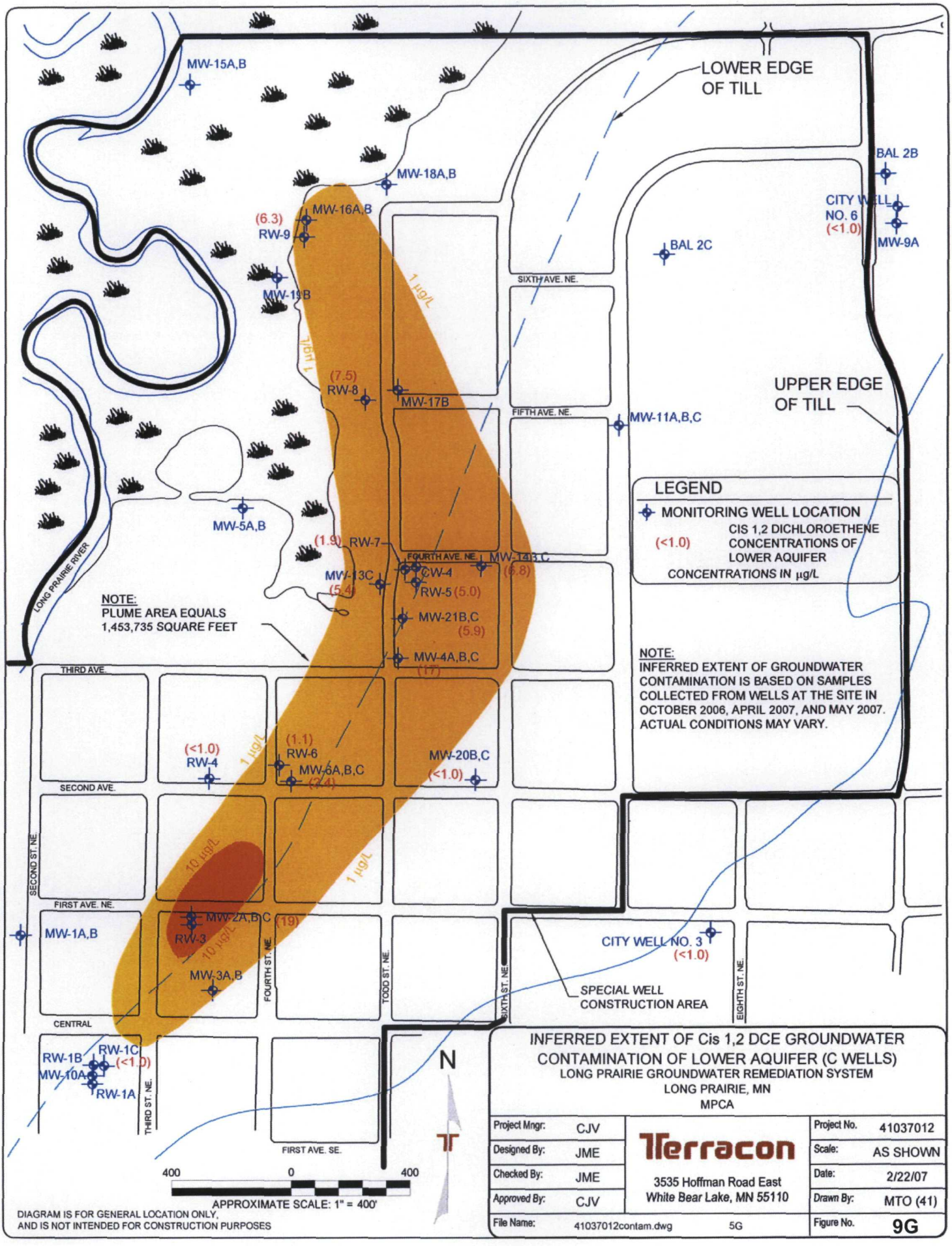

MW-15A,B
LOWER EDGE OF TILL
BAL 2B
MW-18A,B
CITY WELL NO. 6 (<1.0)
MW-9A
(6.3) RW-9
MW-16A,B
BAL 2C
MW-19B
SIXTH AVE. NE.
1 µg/L
(7.5) RW-8
MW-17B
FIFTH AVE. NE.
MW-11A,B,C
UPPER EDGE OF TILL
MW-5A,B
LONG PRAIRIE RIVER
(1.9) RW-7
FOURTH AVE. NE.
MW-13C (5.4)
CW-4
RW-5 (5.0)
MW-14B,C (6.8)
MW-21B,C (5.9)
MW-4A,B,C (17)
NOTE: PLUME AREA EQUALS 1,453,735 SQUARE FEET
THIRD AVE.
(<1.0) RW-4
1 µg/L
(1.1) RW-6
MW-6A,B,C (2.4)
MW-20B,C (<1.0)
SECOND AVE.
SECOND ST. NE.
10 µg/L
1 µg/L
FIRST AVE. NE.
MW-2A,B,C (19)
MW-1A,B
RW-3
10 µg/L
MW-3A,B
FOURTH ST. NE.
TODD ST. NE.
SIXTH ST. NE.
CITY WELL NO. 3 (<1.0)
SPECIAL WELL CONSTRUCTION AREA
EIGHTH ST. NE.
CENTRAL
RW-1B
RW-1C (<1.0)
MW-10A
RW-1A
THIRD ST. NE.
FIRST AVE. SE.
N
400 0 400
APPROXIMATE SCALE: 1" = 400'
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES
LEGEND
MONITORING WELL LOCATION
(<1.0) CIS 1,2 DICHLOROETHENE CONCENTRATIONS OF LOWER AQUIFER
CONCENTRATIONS IN µg/L
NOTE: INFERRED EXTENT OF GROUNDWATER CONTAMINATION IS BASED ON SAMPLES COLLECTED FROM WELLS AT THE SITE IN OCTOBER 2006, APRIL 2007, AND MAY 2007. ACTUAL CONDITIONS MAY VARY.
INFERRED EXTENT OF Cis 1,2 DCE GROUNDWATER CONTAMINATION OF LOWER AQUIFER (C WELLS)
LONG PRAIRIE GROUNDWATER REMEDIATION SYSTEM
LONG PRAIRIE, MN
MPCA
Project Mngr: CJV
Designed By: JME
Checked By: JME
Approved By: CJV
Terracon
3535 Hoffman Road East
White Bear Lake, MN 55110
File Name: 41037012contam.dwg 5G
Project No. 41037012
Scale: AS SHOWN
Date: 2/22/07
Drawn By: MTO (41)
Figure No. 9G

Figure 10

Groundwater Analytical Data
Long Prairie Groundwater Remediation System
Long Prairie, Minnesota

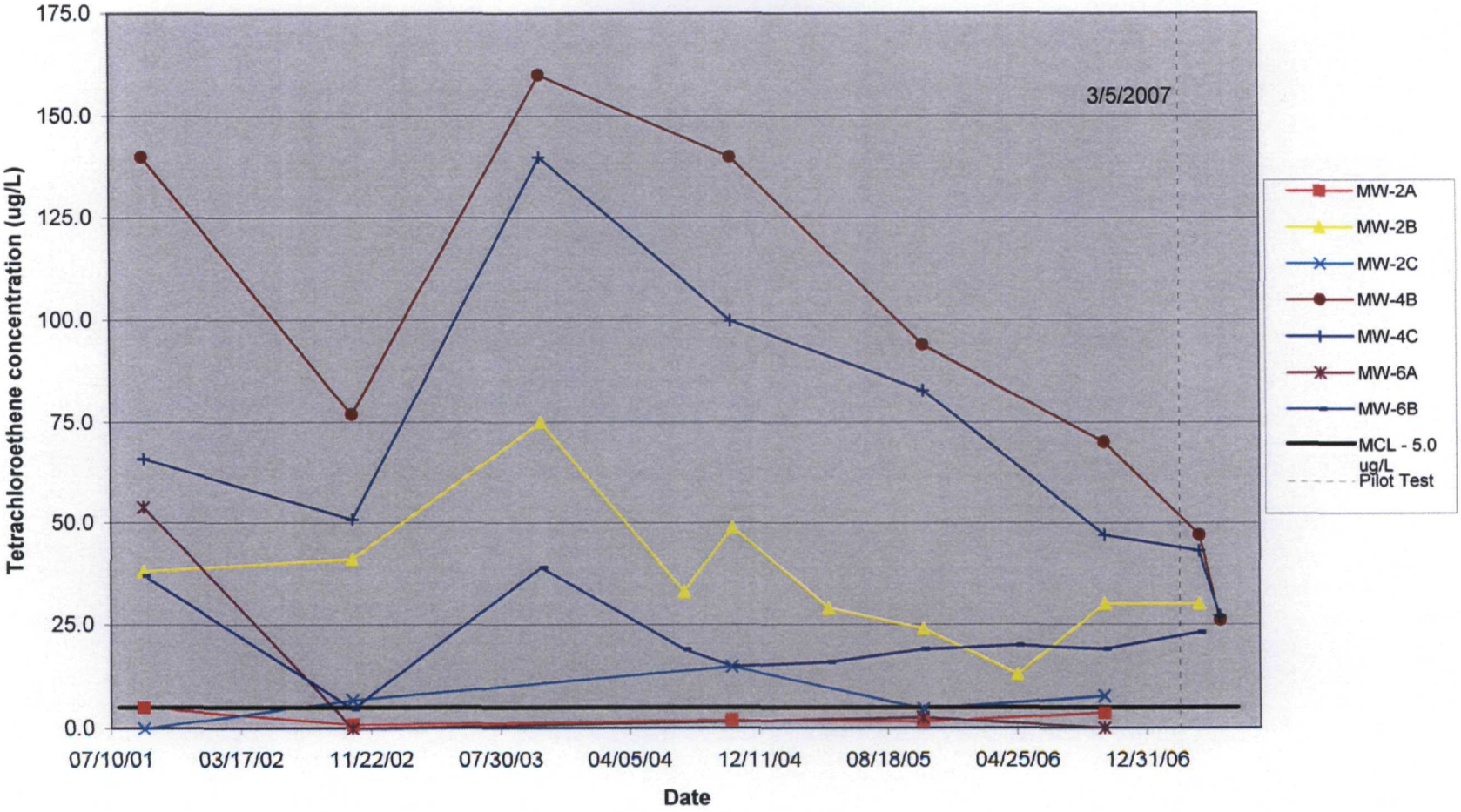


Figure 11
Groundwater Analytical Data
Long Prairie Groundwater Remediation System
Long Prairie, Minnesota

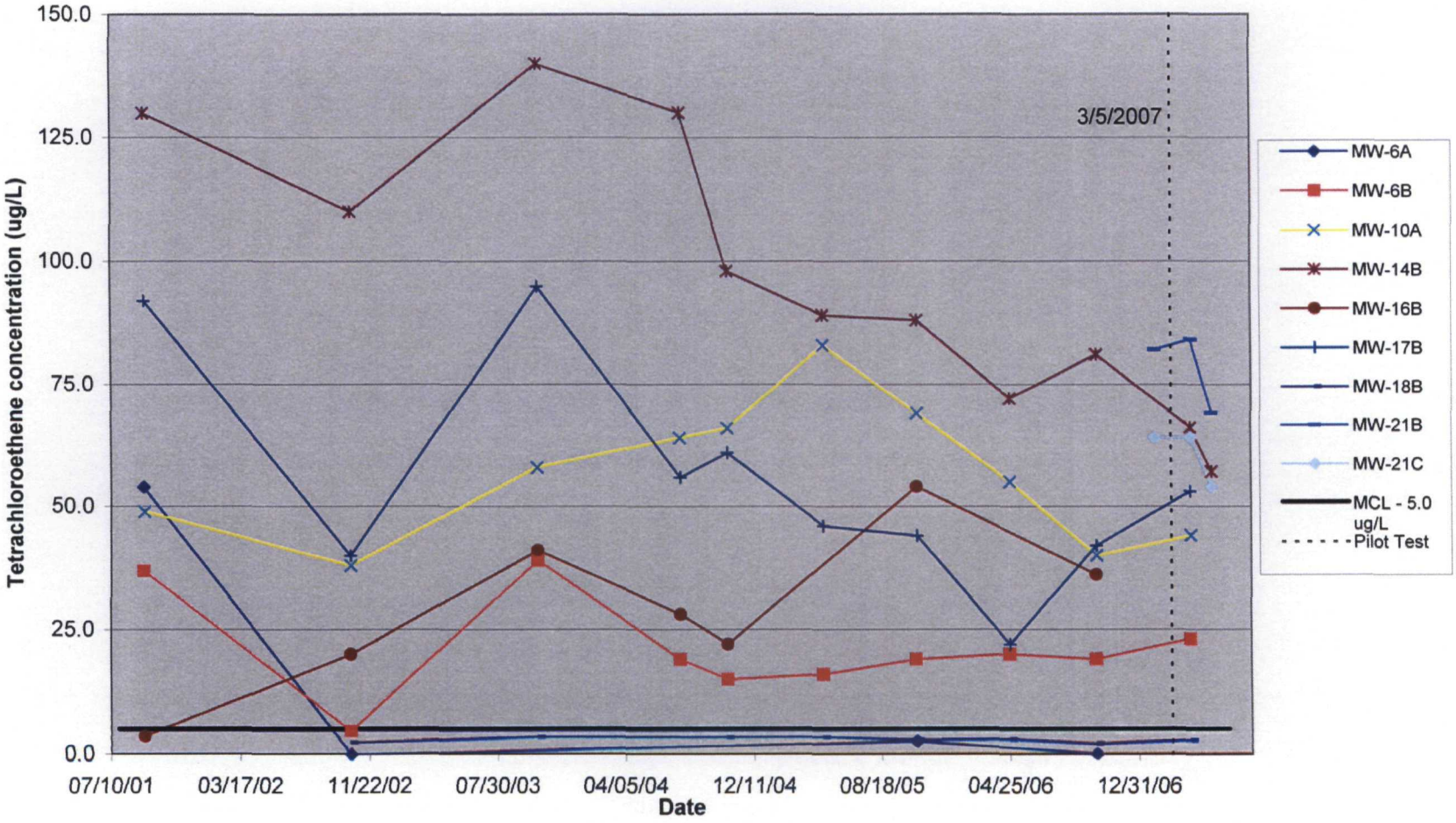
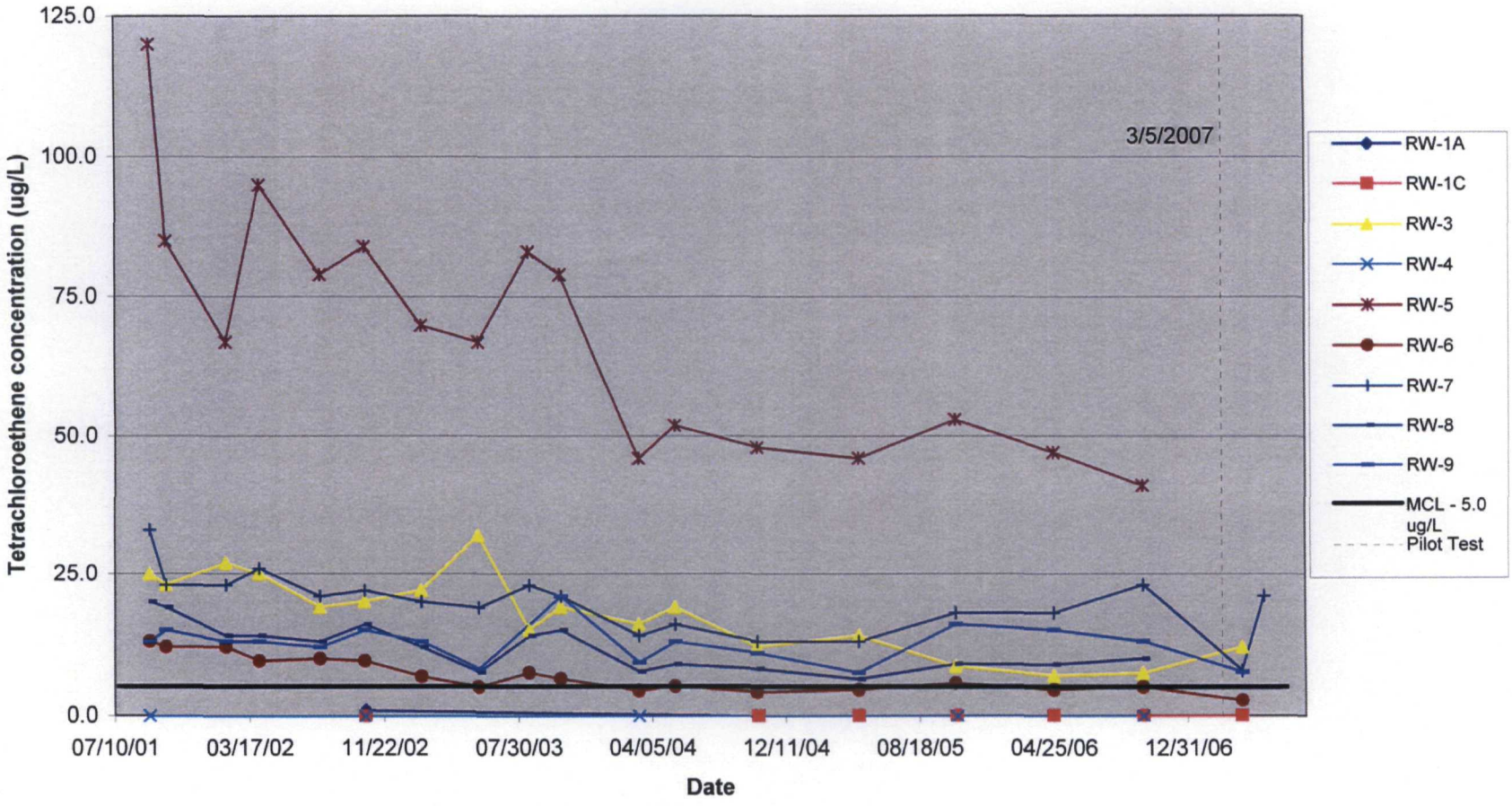


Figure 12

Groundwater Analytical Data
Long Prairie Groundwater Remediation System
Long Prairie, Minnesota



APPENDICES

Appendix A – Notice of Designation of a Special Well Construction Area

Appendix B – Bilingual Fliers – Long Prairie Groundwater Cleanup Project Updates

Appendix C – Community Notification of Five-Year Review

Appendix D – Groundwater Elevations and Analytical Tables

Appendix E – Five-Year Review Site Inspection Form and Photographs

Appendix F – List of Documents Reviewed

APPENDIX A

MINNESOTA MDH DEPARTMENT OF HEALTH

Protecting, maintaining and improving the health of all Minnesotans

MEMORANDUM

DATE: December 19, 2006

TO: Licensed and Registered Well Contractors
City of Long Prairie
Todd County
Advisory Council on Wells and Borings

FROM: John Linc Stine, Director
Environmental Health Division
P.O. Box 64975
St. Paul, Minnesota 55164-0975

SUBJECT: Notice of Designation of a Special Well Construction Area in the City of Long Prairie, Todd County, Minnesota

The Minnesota Department of Health (MDH) is designating a Special Well Construction Area (SWCA) that includes the central portion of the city of Long Prairie in Todd County, as shown in the enclosed map (Figure 1). The SWCA designation, which becomes effective January 1, 2007, applies to the construction, repair, and sealing of all wells and borings and remains in effect until further notice.

SITE HISTORY

During 1983, the MDH sampled five municipal wells serving the Long Prairie community public water supply and analyzed the samples for volatile organic chemicals (VOC's). Results indicated the presence of tetrachloroethylene and a variety of degradation products (chlorinated ethylenes and vinyl chloride) in two municipal wells (Number 4 and Number 5) in northeastern Long Prairie. Subsequent testing of private wells and other hydrogeologic investigations delineated a plume of tetrachloroethylene-contaminated groundwater extending approximately 4000 feet from a former dry cleaning site northeast to the two former municipal wells and further northwest towards the Long Prairie River.

In addition to the two municipal wells, approximately 200 private wells, all completed in the upper outwash sand aquifer, were impacted. In 1983-84, the municipal water supply was extended into the 15 square block area originally identified in the area potentially impacted. In 1994, contamination was found to have spread beyond this original area and municipal water was further expanded to serve this area. In 1996, a groundwater recovery system using granular activated carbon (GAC) for treatment began operation in an effort to restore groundwater quality

and to prevent spread of contamination to Municipal Wells 3 and 6. Currently, six recovery wells are operating. Minnesota Pollution Control Agency (MPCA) also installed and operated a soil venting system in the source area during 1997-99. Cleanup goals were achieved for the soils and the system was dismantled in 2000 (Johnson, M. and Gnabasik, B., 2004).

SITE HYDROGEOLOGY

The Long Prairie River is located within a glacial outwash/alluvium valley, which has cut into an upper, clay-rich glacial till unit. Within the outwash channel, the upper aquifer is generally separated from a deeper outwash sand by remnants of till on the order of 10-20 feet thick, thought to be remnants of Wadena Lobe till. A lower outwash unit and lower till unit underlie the upper till. In the central part of the valley, the upper outwash extends completely through the upper till (see Figure 2). The upper outwash/alluvium aquifer extends to a maximum depth of 66 feet within the SWCA, but pinches out towards the edge of the valley and the upper glacial till unit. The lower outwash unit appears to be much more extensive laterally and may approach 120 feet thick near Lake Charlotte, south of the city of Long Prairie (MDH 2006, page 7).

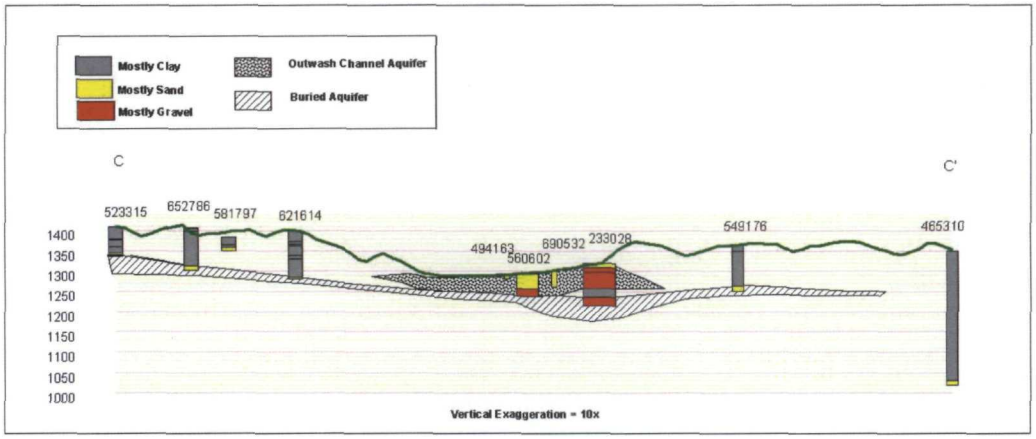
Both aquifer units consist of relatively coarse sand and gravel. The upper outwash aquifer is a very productive aquifer with excellent yield. Static water levels in the upper outwash range in depth from 3 to 22 feet. Many private wells within the SWCA are simply drive-point (or sand-point) wells. Aquifer sensitivity for the upper aquifer is moderate to high and is moderate for the lower outwash aquifer. Wells completed in these aquifers are considered vulnerable to contamination, as reflected in the relatively high tritium levels found in Municipal Wells 6 and 7, indicating relatively young water (MDH 2006, page 18).

Although groundwater flow is probably normally to the west-northwest, discharging towards the Long Prairie River, withdrawals from the former municipal wells, the currently active municipal wells, and, more recently, the remediation wells, have resulted in a complex groundwater flow pattern. The orientation of the contaminant plume may, in fact, be the best reflection of historic groundwater flow patterns due to the influences of varying pumping patterns over time (Terracon 2003, figures 2, 5A, 5B, and 5C). Variations in the character of the upper outwash aquifer may also contribute to the complex flow pattern.

Figure 1. Special Well Construction Area
City of Long Prairie, Todd County

14 Nov 06 Minnesota Department of Health - Well Management Section

Figure 2



PUBLIC HEALTH CONCERNS

The primary contaminant of concern is tetrachlorethylene, which is a solvent used in dry cleaning and high-quality printing. The source of contamination is a former dry cleaner located in the downtown area of the city of Long Prairie. Associated contaminants include a number of degradation/dechlorination products or impurities, including cis-1,2-dichloroethylene, trans-1,2-dichlorothylene, 1,1-dichloroethane, 1,1-dichloroethylene, 1,1,2-trichloroethylene, and vinyl chloride.

Tetrachlorethylene, as well as some of its degradation products (e.g. trans-1,2-dichloroethylene and trichloroethylene), have been shown to0 be toxic to the liver and kidneys in laboratory animals. The Health Risk Limit (HRL), which is the reference for domestic wells, for tetrachloroethylene is 7 µg/l. In addition, some degradation products are known (vinyl chloride) or probable (trichloroethylene) human carcinogens.

BOUNDARIES OF THE SPECIAL WELL CONSTRUCTION AREA

The location of the SWCA is shown on the attached map (Figure 1). This area is bounded on the north by a line beginning at the intersection of County Road 5 and Ninth Street Northeast and extending due west to the Long Prairie River (the city of Long Prairie boundary), Ninth Street Northeast/Ninth Street Southeast on the east, Second Avenue Southeast on the south, and the Long Prairie River and State Aid Highway 71 on the west. The SWCA is within the limits of the city of Long Prairie and is within the west half of the southwest quartile of Section 16, the southeast quartile of Section 17 (that portion east of the Long Prairie River), the northeast quartile of Section 20, and the west half of the northwest quartile of Section 21 of Township 129 North, Range 33 West, Todd County.

REQUIREMENTS OF THE SPECIAL WELL CONSTRUCTION AREA

1. All wells and borings regulated by the MDH are subject to the requirements of this SWCA. These include water-supply wells (domestic, public, irrigation, commercial/industrial, heating/cooling, remedial), monitoring wells, and dewatering wells. Borings include environmental bore holes, elevators, and vertical heat exchangers. Notifications, permit applications, and plans for wells must be submitted to the MDH.

2. Construction of a new well or boring, or modification of the depth or casing of an existing well, may not start until plans have been reviewed and approved, in writing, by the MDH. In addition to the normally required notification of permit application, the plan must include the following information: street address; well depth; casing type, diameter(s), and depth; construction method, including grout materials and grout method; pumping rate; and well use.

3. Special well construction and/or monitoring requirements may be imposed depending on well location and use in order to protect public health and groundwater quality and to prevent contaminant migration. These requirements will be based on available knowledge of groundwater contamination and movement near the well site and the proposed use and pumping rate of the well.

4. Water-supply wells will not be approved for completion in the upper outwash unit and the lower outwash unit in the SWCA for any consumptive or potable uses, including drinking, cooking, or processing of food, drink, or pharmaceuticals, or to supply water to plumbing fixtures available for human consumption. Completion of a potable water-supply well into a deeper aquifer may be considered.

5. Approval of plans and specifications for construction or modification of a community public water-supply well and of the well site is required by Minnesota Rules, part 4725.5850. The MDH may approve completion of a public water-supply well within the designated SWCA if the system operator/owner can demonstrate that the water delivered to the distribution system meets Maximum Contaminant Levels (MCLs) established by the U.S. Environmental Protection Agency, either through treatment, blending with other sources, monitoring, or other mechanisms. The MDH regularly monitors public water supplies for regulated contaminants. The MCL for tetrachlorethylene is 5µg/l. Many of the other chlorinated ethanes and ethylenes also have established MCLs.

6. A well or boring used for nonpotable purposes may be completed into the upper outwash unit or the lower outwash unit anywhere within the SWCA, provided that the MDH and the MPCA determine the use of the well will not interfere with remediation efforts, cause further spread of contamination, or result in human exposure to contaminants at concentrations exceeding HRLs or other relevant public health standards.

7. No well or boring may be permanently sealed until the MDH has received, reviewed, and approved (in writing) the plans for the proposed sealing. In addition to the required notification, the plan must include the following information: street address; original well/boring depth; current well/boring depth (if different); casing type(s), diameter(s), depth(s); methods of identifying and sealing any open annular space(s); methods of identifying and removing any obstructions; grout materials and sealing methods.

8. Contractors must contact the MDH, St. Cloud district office by phone at least 24 hours and one business day (Monday – Friday) prior to the start of drilling a new well or boring, modification of an existing well or boring, or sealing of a well or boring.

9. All provisions of Minnesota Rules, Chapter 4725, are in effect.

PERSONS TO CONTACT

For additional information regarding this SWCA, please contact:

Mr. Michael Convery, P.G.
Minnesota Department of Health
Well Management Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975
651/201-4586

Plans for construction, modification, or sealing of wells and borings within the SWCA must be submitted to:

Mr. Curtis Wunderlich
Minnesota Department of Health, St. Cloud District Office
3400 North First Street, Suite 305
St. Cloud, Minnesota 56303-4000
Curtis.wunderlich@health.state.mn.us
320/255-4216

Notifications and permit applications for the construction, modification, or sealing of wells and borings must still be faxed or mail to:

Minnesota Department of Health
Well Management Section
P.O. Box 64975
St. Paul, Minnesota 55164-0975
651/201-4600
Fax 651/201-4599

For information regarding health effects, please contact:

Carl Herbrandson
Minnesota Department of Health
Site Assessment and Consultation Unit
P.O. Box 64975
St. Paul, Minnesota 55164-0975
Carl.herbrandson@health.state.mn.us
651/201-4906

For information regarding the investigation, monitoring, and remediation of the Long Prairie groundwater contamination site, please contact:

Nile Fellows
Superfund Unit 1
Superfund & Emergency Response
Remediation Division
Minnesota Pollution Control Agency
520 Lafayette Road North
St. Paul, Minnesota 55155-4194
651/296-7299
nile.fellows@pca.state.mn.us

Barbara Gnabasik
Superfund Unit 3
Superfund & Emergency Response
Remediation Division
Minnesota Pollution Control Agency
525 Lake Avenue South, Suite 400
Duluth, Minnesota 55802
218/529-6266
barb.gnabasik@state.mn.us

REFERENCES

Johnson, M., and Gnabasik, B., 2004, Memorandum - Request for Establishing a Special Well Construction Area at the Long Prairie Ground Water Contamination Site, 12p.

Minnesota Department of Health, 2006, Wellhead Protection Plan for the City of Long Prairie, 44p.

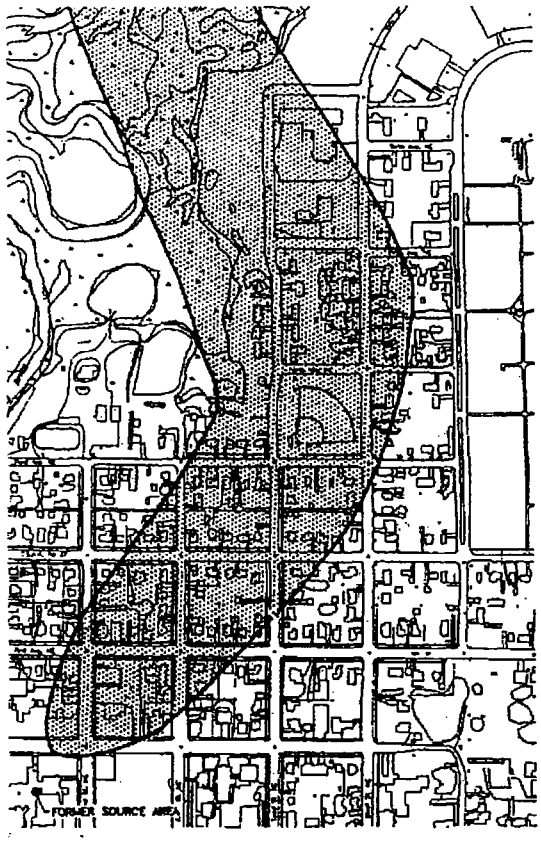
Terracon, Inc., 2004, 2003 Annual Monitoring Report, Long Prairie Ground Water Remediation System.

JLS:MPC:jmw

APPENDIX B

Long Prairie Groundwater Cleanup Project Update

In 1983, the Minnesota Department of Health discovered contamination in two of the five wells from which the City of Long Prairie obtains its drinking water. These wells draw water from the Long Prairie Sand Plain aquifer underlying the city and surrounding region. The contamination originated in the commercial district of the city behind a defunct dry-cleaning facility. Waste from the dry-cleaning process had been improperly disposed of behind the facility, thereby contaminating the soil and infiltrating the aquifer. The Minnesota Pollution Control Agency (MPCA) assisted by environmental consultant Barr Engineering Company, has been working with the U.S. Environmental Protection Agency (EPA) to clean up the contaminated soil and groundwater since 1997 when the selected remedy was installed



This fact sheet is part of a standard five-year-review process and is intended to update the citizens of Long Prairie on the effectiveness of the cleanup efforts. A copy of the completed five-year review report is available in the Administrative Record at the MPCA offices in St. Paul, MN; the Administrative Record at the EPA Region 5 office in Chicago, IL; and the local Site Information Repository at the Long Prairie City Hall. The EPA also intends to make the report available on the EPA Region 5 website. The next five-year review of this project will take place in June of 2007.

Our Goal

The goal of this cleanup project is to provide a safe drinking water supply to present and future Long Prairie residents. To that end, we began by immediately providing an alternative water supply to those residents who were at risk. At the same time, we explored various long-term solutions to the groundwater contamination problem. The remedy that was finally selected and built included many processes. An active soil venting system was used to treat the contaminated soil behind the former dry-cleaning facility. This system restricted human contact with the soil as well as prevented any additional contaminants in the soil from moving to the groundwater. At the same time, we installed groundwater extraction wells to keep the plume of contaminated water from spreading to other parts of the aquifer. The contaminated groundwater, which is extracted from these wells, is then treated with granular activated carbon to remove contamination. The treated groundwater is finally discharged to the Long Prairie River.

Effectiveness

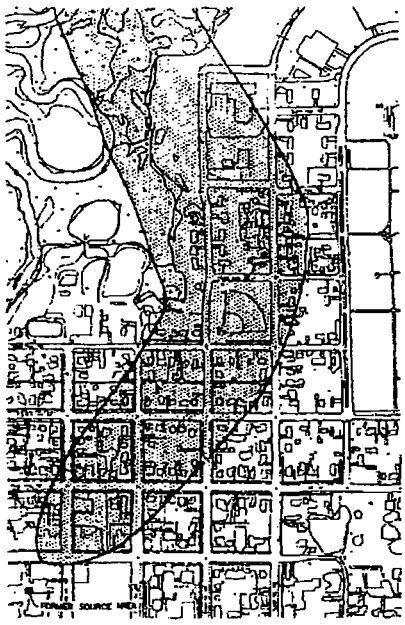
This five-year review was conducted to determine the effectiveness of this cleanup project and has found the selected remedy to be protective of human health and the environment. Cleanup of the soil behind the former dry-cleaning facility is complete and offers permanent protection to the underlying groundwater aquifer from further contamination. It also prevents people from coming into contact with contaminants in the soil or vapor. The remedy has also successfully removed all possible exposure pathways to the groundwater contaminants and is effectively controlling the plume. Containment of the plume and treatment of the extracted groundwater will continue until the groundwater meets safe drinking water standards.

Issues and Follow-up Activities

The remedy is effectively controlling the spread of the contaminant plume and protecting the Long Prairie municipal water supply. We have also begun a continuous monitoring program, since the progress of this remedy must be monitored in order to ensure its continued protectiveness. Although this remedy has effectively reduced all known human exposure to contaminated soil or groundwater, there remains the potential for exposure through unidentified sources, such as private wells. We are now conducting an extensive search for these potential sources so that we can protect anyone who may still be at risk from these contaminants.

Actualización del Proyecto de Limpieza de las Aguas Subterráneas de Long Pairie

En 1983, el Departamento de Salud de Minnesota descubrió contaminación en dos de los cinco pozos de aguas subterráneas que surten de agua potable a la población de Long Prairie. Estos pozos extraen agua de un acuífero de arena que subyace la ciudad y sus alrededores. La contaminación se inició en el Distrito Comercial de la ciudad, detrás de las instalaciones de una antigua tintorería. Los desechos de la tintorería fueron indebidamente depositados detrás de las instalaciones causando contaminación del suelo y del acuífero. La Agencia de Control de Polución de Minnesota (MPCA), asistida por los consultores ambientales de la compañia Barr Engineering, ha estado trabajando con la U.S. Agencia de Proteción Ambiental (EPA) para limpiar los suelos y aguas contaminadas desde 1997, cuando el sistema de tratamiento seleccionado fue instalado.



Este panfleto es parte de un proceso estandarizado de revisión quinquenial (cada cinco años) y tiene la intención de informar y actualizar a los habitantes de Long Prairie sobre la efectividad de los esfuerzos de limpieza. Una copia completa del informe de revisión quinquenial está disponible en las oficinas de registros administrativos (Administrative Records) del MPCA en St. Paul, MN; La Oficina de Registros Administrativos (Administrative Records) del EPA de la Región 5 en Chicago IL; y el sitio local de información en el City Hall de Long Prairie. El EPA también tiene la intención de hacer el informe disponible en el sitio de internet del EPA Región 5. La próxima revisión quinquenial de este proyecto tendrá lugar en Junio de 2007.

Nuestro Objetivo

El objetivo de este proyecto de limpieza es proveer una fuente segura de agua potable a los actuales y futuros residentes de Long Prairie. Para alcanzar nuestro objetivo, nosotros comenzamos inmediatamente a proveer una fuente alterna de agua a aquellos residentes quienes se encontraban en riesgo. Al mismo tiempo, exploramos varias soluciones a largo plazo para el problema de las aguas subterráneas contaminadas. La solución para la limpieza que fue finalmente seleccionada y construida incluyó varios procesos. Un sistema de ventilación activo del suelo fue usado para tratar el suelo contaminado detrás de las instalaciones de la antigua tintorería. Este sistema restringió contacto humano con el suelo así como también evitó que contaminates adicionales en el suelo se movieran hacia las agua subterráneas. Al mismo tiempo instalamos un sistema de pozos de extracción para evitar que la pluma de agua contaminada se moviera a otras partes del acuífero. Las aguas subterráneas contaminadas que son extraídas de estos pozos son tratadas con carbón granular activado para remover la contaminación. Las aguas subterráneas tratadas son finalmente descargadas en el Río Long Prairie.

Efectividad

Esta revisión quinquenial fue realizada para determinar la efectividad de este proyecto de limpieza y se encontró que el sistema seleccionado protege la salud humana y el ambiente. La limpieza del suelo detrás de las instalaciones de la antigua tintorería se ha completado y ofrece protección permanente de futura contaminación a las aguas subterráneas del acuífero subyacente. También previene que la gente entre en contacto con vapores o contaminantes en el suelo. El sistema de limpieza ha sido satisfactorio en remover todas las posibles vías o fuentes de exposición a los contaminantes del agua subterránea y está controlando efectivamente la pluma de contaminación. La contención de la pluma de contaminación y tratamiento de las aguas subterráneas extraídas continuará, hasta que las aguas subterráneas alcancen estándares de agua potable segura.

Temas y Actividades Siguientes

El sistema de limpieza está efectivamente controlando la expansión de la pluma de contaminante y protegiendo la fuente de agua municipal de Long Prairie. Nosotros también hemos comenzado un sistema contínuo de monitoreo, debido a que el progreso de esta limpieza debe ser monitoreado para su contínua protección. A pesar de que el sistema de limpieza ha efectivamente reducido todas las exposiciones humanas conocidas a los suelos y aguas subterráneas, todavía existe el potencial de exposición a través de fuentes no identificadas, tales como pozos de agua privados. Nosotros estamos actualmente conduciendo una extensa búsqueda de esas fuentes potenciales de tal manera que podamos proteger a aquellas personas quienes podrían estar todavía en riesgo de estos contaminantes.

Minnesota Pollution Control Agency

BARR

News

Long Prairie groundwater clean up continues at contaminated site south of Central

Groundwater still unsafe to drink

Tratamiento del Agua Subterránea de Long Pairie Continúa

El Agua Subterránea Sigue Peligroso Para Beber

Editor's note: This article was submitted by the Minnesota Pollution Control Agency regarding contaminated water south of Central Avenue. It has been translated courtesy of the MPCA.

The Minnesota Pollution Control Agency (MPCA) wants to remind Long Prairie residents that there is still groundwater contamination in the area shown on the attached map and that the groundwater is still unsafe to drink from a private well in that area. Everyone in this area should be on the municipal water system which is safe to drink. This warning is being given as it has come to the attention of the MPCA that some new wells have been installed in this area and some folks may be drinking the water from these wells.

La Agencia de Control de Contaminación de Minnesota (en inglés, Minnesota Pollution Control Agency o MPCA) quiere recordarle a los residentes de Long Prairie que la contaminación del agua subterránea en el area representado en el mapa incluído continúa todavía, y que sigue siendo peligroso consumir el agua subterránea sacado de posos en este area. Todos que viven en este area deben usar agua del system municipal, que está seguro para beber. Esta advertencia viene siguiendo noticia al MPCA que unos nuevos pozos han sido construídos en este area, y que hay la possibilidad que hay gente quienes están tomando agua de estos pozos.

Because this water is contaminated with solvents, the MPCA has recommended that the Minnesota Department of Health (MDH) designate the Long Prairie Superfund site as a Special Well Construction Area (SWCA) (map Special Well Construction Area). A SWCA provides for the regulation of construction, reconstruction, or sealing of wells in an area where groundwater contamination may result in risks to public health or the environment. In a SWCA, the MDH requires the well owner and contractor to submit a work plan for approval prior to the installation of a well. Specific construction requirements and testing are among the conditions typically required in a Special Well Construction Area.

Como este agua está contaminado con solventes, el MPCA ha recommendado que el Departamento de Salud de Minnesota (en inglés, Minnesota Department of Health o MDH) designe el sitio llamado Long Prairie Superfund como un Area Especial Para Construcción de Pozos (en inglés, Special Well Construction Area o SWCA) (refiérase al mapa del SWCA). Un SWCA permite la regulación de la construcción, reparación ó cerramiento de pozos en un area donde contaminación del agua subterránea podría resultar en riesgo a la salud publica o al ambiente. El SWCA requiere que el dueño y el contratista sométan un plan de trabajo para approbación antes de instalar un pozo nuevo. Requisitos especiales, para la construcción y para pruebas technicas, son typicamente especificados.

The contamination in the groundwater was first discovered in 1983, by the Minnesota Department of Health when it was discovered that solvent contamination existed in two of the five wells the City of Long Prairie used to obtain drinking water. Use of these two municipal wells was discontinued due to possible long term health impacts and a new well was drilled by the city in 1984. The contamination originated in the commercial district of the city behind an old dry cleaning facility. Waste from the dry cleaning process had been improperly disposed of in the ground behind the facility. The waste contaminated the surrounding soil and infiltrated the underlying drinking water aquifer. The contamination reached the groundwater and a plume extends to the north and north-northeast, eventually discharging to the Long Prairie River.

La contaminación del agua subterránea fue descubierto incialmente in 1983 por el MDH, quienes notaron contaminación con solventes en dos entre cinco pozos fr agua potable usados por la ciudad de Long Prairie. El uso de estos pozos estaba discontinuado por riesgo de tener effectos de largo plazo a la salúd, y un pozo nuevo fue construído en 1984. La contaminación parecía originar en el distrito commercial de la ciudad, donde deschos de sustancias químicas fueron descargados impropiamente sobre la tierra detrás de un tintorería. Estos desechos contaminaron la tierra en ese sitio y entraron el subyacente aquífero de agua potable. La pluma de contaminación llegó hacia el agua subterranéo y extendió al norte/ noreste hasta llegar al río llamado Long Prairie River.

In 1983 The MPCA connected those residents who were drinking contaminated water to the municipal water system within the 15 block advisory area. In 1994, the plume was found to extend further north and additional residences to the north and east were hooked up to the municipal water supply. MPCA also installed groundwater extraction wells in 1996 to keep the plume of contaminated water from spreading to other parts of the City or to a deeper aquifer. The contaminated groundwater extracted from the extraction wells is treated with granular activated carbon to remove the contamination. The treated groundwater is then discharged to the Long Prairie River. In 1997 the MPCA installed an active soil venting system to treat the contaminated soil behind the former dry cleaning facility. The soil venting system successfully remediated the impacted surface soils by 2000 and the treatment system was removed.

En 1983, el MPCA connectó residentes dentro de un area de 15 cuadras, quienes estaban tomando agua contaminado, al systema de agua municipal. En 1994, discubriendo que el area de contaminación extendía más al norte, residentes adicionales al norte y al este fueron también connectados. En 1996, el MPCA construyó un systema para la extracción y tratamiento de agua subterranéa, a evitar esparcimiento de agua contaminado a otras partes de la ciudad, o a otro aquífero subyacente mas bajo. Granulado carbon activado fue usado como tratamiento, y el agua fue descargado al Long Prairie River. El MPCA también instaló, detrás del tintoreria, una rejilla activa de ventulación para tratar la tierra contaminada. Hasta el año 2000, este systema exitosamente remedió la tierra superficial de esc area y el systema fue eliminado

The groundwater extraction and treatment system is still active and continues to remove contaminants from the extracted groundwater. However, after 10 years the ground water is still contaminated and continued pumping will be needed for several more years. The MPCA also is currently investigating other potential groundwater treatment alternatives to accelerate the groundwater cleanup effort.

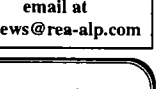
El systema para extracción y tratamiento de agua subterranéa todavia sigue funcionando. Aunque ha pasado diez años, el agua subterraneo sigue ser contaminado y el tratamiento parece ser necessario unos años más El MPCA también está investigando otros alternativos para acelerar el esfuerzo.

The extraction wells are effectively controlling the spread of the contaminant plume, removing contamination from the groundwater and are protecting the Long Prairie municipal water supply But the groundwater in the affected area is still contaminated and drinking water from this area is not recommended. If you have any questions please contact Nile Fellows, MPCA, Remediation Division, 520 Lafayette Road North, St. Paul, MN 55155, or by phone at (651) 296-7299

Aunque este systema sigue efectivo para controlar el esparcimiento de contaminación y proteger el systema de agua potable municipal, el agua subterraneo sigue contaminado y no se debe beber. Por favor, contacte a Sr. Nile Fellows, MPCA, Remediation Division, 520 Lafayette Road North, St. Paul, MN 55155, ó, por telefono á (651) 296-7299 con qualquier pregunta.

Have a news tip? Call us at 320-732-2151 or email at lplnews@rea-alp.com

Attic Archives



75 Years Ago

Petition asks to seine Lake Latimer

Long Prairie Leader - Feb. 4, 1932

In response to a number of requests, Game Warden R D Stickney is circulating a petition asking the state game and fish department for permission to seine Lake Latimer and take the game fish from that body of water and place them in Lake Charlotte. The low lake level has caused many fish to smother during the winter in the first named lake while of recent years the lake vegetation has been giving off a gas which has also caused death to large numbers of fish. It is hoped that by seining the lake the fish can be saved and by placing them in Lake Charlotte it will increase that lake's supply of fish while at the same time conserving those which would otherwise die in Lake Latimer. Sportsmen interested in the movement and wishing to sign the petition may do so by calling at the Deuhs Hardware Store where the petition is on file.

50 Years Ago

School bond issue approved 542-143 by district voters

Long Prairie Leader - Jan. 31, 1957

Six hundred and eighty-seven voters of Long Prairie Consolidated School District No. 11 braved the sub-zero weather last Thursday afternoon and evening to cast their ballots at the school bond election. The vote was 542 voting "yes" for the $600,000 bond issue and 142 voting "no".

The passage of the bond issue assures Long Prairie their new high school addition. The school board will not set the bonds immediately because the money will not be needed until construction actually begins. They will sell the bonds when conditions appear most favorable.

25 Years Ago

Grey Eagle municipal liquor store sold on bids

Long Prairie Leader - Feb. 3, 1982

The Grey Eagle City Council voted unanimously Jan. 27 to sell the municipal liquor store to Roger Gates of Minneapolis.

Gates was the high bidder, offering the city $140,000 for the liquor store plus inventory. At the end of 1981, the inventory was valued at approximately $23,500.

The transfer of ownership will take effect May 3. Gates said he plans extensive remodeling soon after that date, possibly including the installation of a horseshoe bar, and hopes to make provisions for live musical entertainment. The off-sale portion of the operation will be maintained.

A Minneapolis resident, Gates has been a frequent visitor to the Grey Eagle-Burtrum area for over 12 years and is married to the former Linda Kuehne of rural Burtrum.

Church directory

American Lutheran Church
215 9th Street SE, Long Prairie
Wednesday, Jan. 31: 7:30 a.m. Eighth grade Confirmation; 5:30 p.m. Family night supper; 6 p.m. Ninth grade Confirmation, Praise team, Crosswalk practice, Junior high meeting; 7 p.m. Senior choir. Thursday, Feb. 1: 12 p.m. Book study and bag lunch. Saturday, Feb. 3: 8 a.m. Men's breakfast and Bible study; 7:30 p.m. Youth fellowship at Reynolds. Sunday, Feb. 4: 8 a.m. Worship broadcast on Radio 1400 AM-KEYL; 9:15 a.m. Sunday school/adult class; 10:30 a.m. Worship. Monday, Feb. 5: 7 p.m. Sarah Circle-nursing home birthday party. Tuesday, Feb. 6: 9 a.m. Ministerium; 5 p.m. Trustees' meeting; 7:30 p.m. Long Prairie orchestra practice.—Bill Bakewicz, pastor.

Assembly of God
410 9th Street NE, Long Prairie
Wednesday, Jan. 31: 7 p.m. Royal Rangers, Missionettes, Bible study all ages. Sunday, Feb. 4: 9:30 a.m. Sunday school; 10:30 a.m. Morning Worship; 6 p.m. Bible study.–Duane Smith, pastor.

Calvary Lutheran Church
Little Sauk
Sunday: 8:45 a.m. Worship service with Holy Communion on first Sunday of month. Tuesday: 7 p.m. Bible study.—David Peterson, pastor.

Catholic Church of
St. John the Baptist, Swanville
Mass times: Saturday: 7:30 p.m. Sunday: 10:30 a.m.

Christ the King Catholic Church
Browerville
Saturday: 4:30 p.m. Mass. Sunday: 8 a.m. Mass.—Fr. John Caskey, pastor.

Clarissa Bible Church
Sunday: 10 a.m. Sunday school classes for age three through grade eight; Worship service, Wednesday: 7:30 p.m. Bible study and prayer meeting.—Peter Tranvik, pastor.

Eagle Valley Community Church
Free Methodist Church
Corner of Frank Ave & Mill St. W.
Clarissa
Sunday: 11 a.m. Family Style Worship.—Rick Martin, Pastor

Emmanuel Lutheran Church
511 Todd St. N, Long Prairie
Sunday, Feb 4: 9 a.m. Divine service with Holy Communion, guest preacher - Rev. Norman Hanan; 10 a.m. Sunday school and Bible class.—Gerold W. Goetz, pastor.

Faith Community Church,
Burtrum
Sunday: 9:30 a.m. Sunday Bible school; 10 a.m. Worship service. Every other Thursday: 8 p.m. Home Bible study.—Roger Schmidt, pastor.

First Baptist Church,
Long Prairie
Wednesday, Jan. 31: 7:15 a.m. D Group-Crosstire; 3 p.m. Bulletin announcements due; 3:30 p.m. "Doer's of the Word"; 6:30 p.m. Awana-big feet night; 7 p.m. Prayer meeting. Thursday, Feb. 1: 9:30 a.m. LPNH service; 10:30 a.m. Valley View service. Sunday, Feb. 4: 7:30 a.m. Worship team practice; 9 a.m. Worship/Communion; 10;15 a.m. Fellowship time; 10:40 a.m. Sunday school; 5:15 p.m. Crossfire-Super Bowl party-Brunswig's home; 5:30 p.m. Bible study. Monday, Feb. 5: 7 p.m. Trustee meeting; Ladies Valentine cookie event. Tuesday, Feb. 6: 7:15 a.m. D Group-JV; 9:30 a.m. Moments for Mom.—Andrew Brown, pastor.

Leslie Community Church
Head of Lake Osakis at
Highways #10 and #37
Sunday: 9 a.m. Worship service.—Larry Pearson, pastor.

Little Sauk-Long Bridge Lutheran Church, Rural Sauk Centre
Sunday: 8:30 a.m. Sunday school; 9 a.m. Worship service.—Steve Hilde, pastor.

Reynolds Baptist Church
19556 210th St., Rural Long Prairie
Wednesday, Jan. 31: 6 p.m. Jr. youth meeting. Saturday, Feb. 3: 7:30 p.m. Youth fellowship. Sunday, Feb. 4: 9 a.m. Adult Bible study; 10:30 a.m. Worship service and children's Sunday school, Rick Warren speaker on "The Purpose Driven Life: simulcast.–Allen Travaille, pastor.

Round Prairie Community Church
Sunday: 10 a.m. Sunday school; 11 a.m. Morning worship. Wednesday: 7:30 p.m. Evening Bible study and prayer services in church.—Robert Thompson, pastor.

St. John's Evangelical Lutheran Church
203 Cedar St. S., Grey Eagle
Sunday: 9 a.m. Divine service; 10 a.m. Sunday school, Teen/adult Bible class. Holy Communion first and third Sunday of the month.—Ronald E. Tibbetts, pastor.

St. John Vianney Catholic
Church, 18910 Ellipse Loop, Long Prairie
Monday thru Saturday: 8 a.m. Latin Mass. Sunday: 7 & 9 a.m. Latin Mass; Confession: 30 minutes prior to mass.—Fr. Patrick Crane, pastor.

St. Joseph's Catholic Church
Grey Eagle
Saturday: 4:30 p.m. Mass. Sunday: 9 a.m. Mass.

St. Mary of Mount Carmel
Catholic Church, Long Prairie
Wednesday, Jan. 31: 8:15 a.m. Mass; 10:30 a.m. School Mass; Religious ed classes for grades 1-10. Thursday, Feb. 1: 8:15 a.m. Mass; 7:30 p.m. School advisory board meets. Friday, Feb. 2: 8:15 a.m. Mass; 9:45 a.m. Nursing home Mass. Saturday, Feb. 3: 4:30 p.m. Sacrament of Reconciliation; 5:30 p.m. Mass. Sunday, Feb. 4: 8:30 a.m. Mass, coffee and rolls served after Mass; 10:30 a.m. Mass; 12:30 p.m. misa en español. Monday, Feb. 5: 8:15 a.m. Mass; 7:30 p.m. Prayer group meets at the Rock. Tuesday, Feb. 6: 3:30 p.m. RCIT at the Rock; 7:30 p.m. Mass.—Fr. Kenneth Riedemann, pastor and Fr. Scott Wittkop, associate pastor.

St. Matthew's Lutheran Church/
Missouri Synod, Clarissa
Sunday: 9 a.m. Worship services; 10:15 a.m. Sunday school. Holy Communion first and third Sundays of the month.—Walter Brill, pastor.

St. Peter's Lutheran
Church/LCMS Swanville
Sunday: 9 a.m. Worship; 10:15 a.m. Sunday school and Bible class.—John O. Grein, pastor.

Swanville Bible Church Christian
and Missionary Alliance
Sunday: 9:30 a.m. Bible classes; 10:30 a.m. Morning service. Wednesday evening prayer meeting 7 p.m.—David J. Packo, pastor.

Trinity Lutheran Church-LCMS
610 2nd Avenue SE, Long Prairie
Wednesday, Jan. 31: 3:30 p.m. 6-8 Confirmation; 7:30 p.m. Voters assembly. Sunday, Feb. 4: 8:15 a.m. Worship/Holy Communion; 9:20 a.m. Sunday school and Bible class; 10:30 a.m. Worship/Holy Communion; Can drop off, Tuesday, Feb. 6: 9 a.m. Quilting.—Paul Biegner, interim pastor.

United Methodist Churches
Clarissa, Clotho, Eagle Bend
January, February, March
Sunday: **Eagle Bend:** 8:30 a.m. Worship; 9:30 a.m. Sunday school. **Clarissa:** 9:50 a.m. Worship. **Clotho:** 10:15 a.m. Sunday School; 11:15 a.m. Worship.—Gary Taylor, pastor.

United Methodist Church
103 Spruce St E, Grey Eagle
Sunday, Feb. 4: 9 a.m. Worship; Sunday school; 2 p.m.—Barbara J. Lindgren, pastor.

United Methodist Church
524 Central Avenue, Long Prairie
UMC and Zion UCC worship
together at UMC in February
Sunday, Feb. 4: 9:15 a.m. Sunday school; 10:30 a.m. Worship.—Barbara J. Lindgren, pastor

Zion Lutheran Church,
Browerville
Sunday: 10 a.m. Worship.—Nathan Loer, pastor.

Zion United Church of Christ
330 8th Street SE, Long Prairie
Zion and Long Prairie UMC wor-
ship together at UMC in February
Sunday, Feb. 4: 9:15 a.m. Sunday school; 10:30 a.m. Worship.—Barbara J. Lindgren, pastor.

APPENDIX C

For the Record

Long Prairie Leader

PUBLIC NOTICE
Todd County Planning and Zoning
215 First Avenue, Suite 201
Long Prairie, MN 56347

Formal Environmental Assessment Worksheet (EAW) for Copper Fields Development near Lake Osakis in Todd County Widseth Smith Nolting Inc has completed a mandatory EAW for the proposed Copper Fields Development The proposed project is to relocate approximately one mile of existing State Trunk Highway 27 farther from the shoreline of Lake Osakis and to remove approximately one mile of Todd County Road 55 in order to create 31 new buildable residential lots (19 lakeside, 12 backlots) and 5 non-buildable outlots Todd County Planning and Zoning is the Responsible Governmental Unit for review of the EAW and is making this notice that the EAW is available for review and comment Copies of the EAW are available for public viewing at the following locations Todd County Planning and Zoning Office, 215 First Avenue South, Suite 201, Long Prairie, MN 56347, Kitchigami Regional Library, 403 Bartlay Ave, PO Box 84, Pine River, MN 56474, Region 5 Regional Development Commission, 611 Iowa Avenue, Staples, MN 56479; and at Widseth Smith Nolting Inc., 610 Fillmore St., Alexandria, MN 56308 and 7804 Industrial Park Road, Baxter, MN 56425-2720 Comments can be forwarded to Andrew Dahlgren, Todd County Planning and Zoning Administrator, 215 First Avenue South Suite 201, Long Prairie, MN 56347. Comments must be received by March 28, 2007.

F28C

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NOTICE OF ANNUAL MEETING AND ELECTION OF OFFICERS FOR REYNOLDS TOWNSHIP

Notice is given to qualified voters of Reynolds Township, Todd County, that the Annual Meeting and Election of Officers will be held on Tuesday, March 13, 2007 In case of inclement weather, the meeting will be postponed to the third Tuesday, March 20, 2007.

The election poll hours are 5:00 p.m. to 8:00 p.m. for the purpose of electing the following offices:

(1) Township Supervisor, for three year term
(1) Township Treasurer, for two year term

The annual meeting will begin at 8:15 p.m. to conduct necessary business prescribed by law

The election and annual meeting will be held at the Reynolds Town Hall.

Melvin Miller, clerk, Reynolds Township
F28-M7C

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Long Prairie Ground Water Contamination Superfund site
Long Prairie, Minnesota

The U.S. Environmental Protection Agency and the Minnesota Pollution Control Agency have begun a five-year review of the Long Prairie Groundwater Contamination Superfund Site in Long Prairie, Minnesota. The federal Superfund law requires a review every five years of sites where the cleanup is either completed or in progress, but levels of hazardous waste remains on site. Five-year reviews are done to ensure that the cleanup is operating properly and continues to protect human health and the environment. This is the second five-year review for this site

The first five-year review was completed in 2002. The first review addressed overall site conditions and the ability of the remedy to capture and treat contaminated groundwater The report concluded that the cleanup actions at the site were still protective of human health and the environment.

The upcoming five-year review will look at

- site information
- how the cleanup was done
- how well the cleanup is working
- whether any future actions are needed

EPA and MPCA invite you to provide information that you think might be important in this site review Site records are at the MPCA, 520 Lafayette Rd., St. Paul, Minnesota. The MPCA is open Monday through Friday from 8:00 a.m. to 4:00 p.m. To review the records, please contact Chris Malec, Records Manager at (651) 297-5177

The five-year review report will be completed this summer. Your information, comments and questions will be most valuable to the agencies if received by 1 July 1, 2007. Please direct your comments or concerns regarding the cleanup to.

Nile Fellows
Project Manager
MPCA
520 Lafayette Rd
St. Paul, Minn. 55155
(651) 296-7299
Nile.fellows@pca.state.mn.us

F28C

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NOTICE
OF MORTGAGE FORECLOSURE SALE

NOTICE IS HEREBY GIVEN that default has occurred in the conditions of the following described mortgage:

DATE OF MORTGAGE January 24, 2005
ORIGINAL PRINCIPAL AMOUNT OF MORTGAGE $178,000.00
MORTGAGOR(S): Michael Hallestad, and Renee Hallestad, Husband and Wife
MORTGAGEE: Town and Country Credit Corp.
DATE AND PLACE OF RECORDING
Recorded: February 7, 2005
Todd County Recorder
Document #: 432325
ASSIGNMENTS OF MORTGAGE.
And thereafter assigned to:
Ameriquest Mortgage Company
Dated February 2, 2005
Recorded November 27, 2006
Document #: 445897
And thereafter assigned to
Mortgage Electronic Registration Systems, Inc.
Dated February 2, 2005
Recorded November 27, 2006
Document #: 445898

LEGAL DESCRIPTION OF PROPERTY. A tract of land lying and being in Government Lot 1, section 20 Township 127 North, range 32 West of the 5th PM described as follows, to-wit Beginning at a point on the East line of the County Highway running Northerly and Southerly across said Government Lot 1, said point of beginning being 25 feet North measured along the highway right of way line of the South line of said Government Lot 1, thence Northerly along the East line of said highway a distance of 100 feet; thence East and parallel with the South line of said Government Lot 1 a distance of 200 feet, thence Southerly and parallel with the East line of said Highway a distance of 100 feet, thence West 200 feet to the point of beginning, and also a tract described as follows to-wit. All the South 20 feet of that part of said Government Lot 1, lying West of the West right of way line of said County Road and the Shore of Big Birch Lake, Todd County, Minnesota.

COUNTY IN WHICH PROPERTY IS LOCATED: Todd

AMOUNT DUE AND CLAIMED TO BE DUE AS OF DATE OF NOTICE $183,142.68

THAT all pre-foreclosure requirements have been complied with; that no action or proceeding has been instituted at law or otherwise to recover the debt secured by said mortgage, or any part thereof

PURSUANT to the power of sale contained in said mortgage, the above described property will be sold by the Sheriff of said county as follows

DATE AND TIME OF SALE: March 8, 2007 10:00 A.M.

PLACE OF SALE
Sheriff's Main Office
Todd County Detention Center
115 Third Street South
Long Prairie, MN

to pay the debt secured by said mortgage and taxes, if any, on said premises and the costs and disbursements, including attorneys fees allowed by law, subject to redemption within 6 months from the date of said sale by the mortgagor(s), their personal representatives or assigns.

Mortgagor(s) released from financial obligation: NONE

THIS COMMUNICATION IS FROM A DEBT COLLECTOR ATTEMPTING TO COLLECT A DEBT. ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE

THE RIGHT TO VERIFICATION OF THE DEBT AND IDENTITY OF THE ORIGINAL CREDITOR WITHIN THE TIME PROVIDED BY LAW IS NOT AFFECTED BY THIS ACTION

THE TIME ALLOWED BY LAW FOR REDEMPTION BY THE MORTGAGOR, THE MORTGAGOR'S PERSONAL REPRESENTATIVES OR ASSIGNS, MAY BE REDUCED TO FIVE WEEKS IF A JUDICIAL ORDER IS ENTERED UNDER MINNESOTA STATUTES, SECTION 582.032, DETERMINING, AMONG OTHER THINGS, THAT THE MORTGAGED PREMISES ARE IMPROVED WITH A RESIDENTIAL DWELLING OF LESS THAN FIVE UNITS, ARE NOT PROPERTY USED IN AGRICULTURAL PRODUCTION, AND ARE ABANDONED.

Dated: January 22, 2007
Mortgage Electronic Registration Systems, Inc.
Assignee of Mortgagee
Wilford & Geske
Attorneys for Assignee of Mortgagee
Lawrence A Wilford
James A. Geske
7650 Currell Boulevard
Suite 300
Woodbury, Minnesota 55125
(651) 209-3300
File ID: 19367

J24-F28C

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NOTICE
ANNUAL TOWNSHIP ELECTION & MEETING
LITTLE SAUK TOWNSHIP

The citizens of the Township of Little Sauk, Todd County, MN who are qualified to vote in the General Election are hereby notified that the Annual Town Meeting and Election will be held at the Town Hall on Tuesday, the 13th of March 2007.

In case of inclement weather the election and meeting will be postponed until the third Tuesday of March

The polls will be open between the hours of 5 PM and 8 PM, for the following purposes

To elect one Supervisor for a term of 3 years

To elect one Treasurer for a term of 2 years

The business meeting will be held at 8:15 PM.

Peter C. Jager, Clerk
2/20/07

F28-M7C

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NOTICE
OF MORTGAGE FORECLOSURE SALE
THE RIGHT TO VERIFICATION OF THE DEBT AND IDENTITY OF THE ORIGINAL CREDITOR WITHIN THE TIME PROVIDED BY LAW IS NOT AFFECTED BY THIS ACTION.

NOTICE IS HEREBY GIVEN, that default has occurred in conditions of the following described mortgage:

DATE OF MORTGAGE: December 27, 2005
MORTGAGOR: Christine Buster, a married person
MORTGAGEE: J P Morgan Chase Bank, N.A.
DATE AND PLACE OF RECORDING: Recorded January 5, 2006, Todd County Recorder, Document No. 439486
ASSIGNMENTS OF MORTGAGE Assigned to: Chase Home Finance LLC, Dated: January 17, 2007.
LEGAL DESCRIPTION OF PROPERTY

Lots 11 and 12, Block 2, Strasburg's Addition to the City of Bertha, Todd County, Minnesota.

COUNTY IN WHICH PROPERTY IS LOCATED: Todd

ORIGINAL PRINCIPAL AMOUNT OF MORTGAGE $42,300.00

AMOUNT DUE AND CLAIMED TO BE DUE AS OF DATE OF NOTICE, INCLUDING TAXES, IF ANY, PAID BY MORTGAGEE $44,239.28

That prior to the commencement of this mortgage foreclosure proceeding Mortgagee/Assignee of Mortgagee complied with all notice requirements as required by statute, That no action or proceeding has been instituted at law or otherwise to recover the debt secured by said mortgage, or any part thereof,

PURSUANT to the power of sale contained in said mortgage the above described property will be sold by the Sheriff of said county as follows

DATE AND TIME OF SALE March 29, 2007 at 10:00 AM

PLACE OF SALE: Sheriff's Office, Todd County Detention Center, Long Prairie, MN to pay the debt then secured by said Mortgage, and taxes, if any, on said premises, and the costs and disbursements, including attorneys' fees allowed by law, subject to redemption within six (6) months from the date of said sale by the mortgagor(s), their personal representatives or assigns.

MORTGAGOR(S) RELEASED FROM FINANCIAL OBLIGATION ON MORTGAGE None

"THE TIME ALLOWED BY LAW FOR REDEMPTION BY THE MORTGAGOR, THE MORTGAGOR'S PERSONAL REPRESENTATIVES OR ASSIGNS, MAY BE REDUCED TO FIVE WEEKS IF A JUDICIAL ORDER IS ENTERED UNDER MINNESOTA STATUTES, SECTION 582.032, DETERMINING, AMONG OTHER THINGS, THAT THE MORTGAGED PREMISES ARE IMPROVED WITH A RESIDENTIAL DWELLING OF LESS THAN FIVE UNITS, ARE NOT PROPERTY USED IN AGRICULTURAL PRODUCTION, AND ARE ABANDONED."

Dated: January 29, 2007
Chase Home Finance LLC
Mortgagee/Assignee of Mortgagee
USSET & WEINGARDEN P.L.L.P.
-s- Paul A. Weingarden
Paul A. Weingarden
Attorneys for Mortgagee/
Assignee of Mortgagee
4500 Park Glen Road #120
Minneapolis, MN 55416
(952) 925-6888
30-4289
1062613514

THIS IS A COMMUNICATION FROM A DEBT COLLECTOR.

F7-M14C

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NOTICE OF ANNUAL MEETING AND ELECTION OF OFFICERS

Notice is hereby given to the qualified voters of Long Prairie Township, County of Todd, State of Minnesota, of the Annual Election of Town Officers and Annual Town Meeting will be held on Tuesday, March 13, 2007. In case of inclement weather, the meeting and election may be postponed until the third Tuesday of March.

The Election Poll hours will be open from 5 p.m. to 8 p.m., at which time the voters will elect

1 Treasurer
1 Supervisor

The Annual Meeting will commence at 8:15 p.m. to conduct all necessary business prescribed by law.

The Annual Election Meeting will be held at the following Location.

Long Prairie Town Hall
City, 12
Long Prairie

Walter Zastrow
Town Clerk, Long Prairie
2-24-07

F28-M7C

o o o

NOTICE TO
CITY OF GREY EAGLE RESIDENTS

The regular meeting of the Grey Eagle City Council, which is to be held on March 13, 2007, will begin at 6:00 p.m., with public hearings to begin at 7:00 p.m. Meeting to be held in Council Chambers, located at 202 Woodman Street South

Respectfully submitted,
Lori Hellmann
City Clerk
City of Grey Eagle

F28C

o o o

CITY OF GREY EAGLE
NOTICE OF HEARING ON
PRELIMINARY ASSESSMENTS FOR STATE STREET IMPROVEMENTS.
TO WHOM IT MAY CONCERN:

Notice is hereby given that the City Council of Grey Eagle, Minnesota will meet in the Council Chambers of the City Hall at 7:00 p.m., on Tuesday, March 13, 2007, to consider the making of an improvement on State Street (State Highway 28) between Cedar Street and the east City limits, Maple Street (CR 33) between State Street and Spruce Street; Woodman Street between State Street and the alley south of State Street, and the alley between Cedar Street and Woodman Street south of State Street; by the construction of streets, curb and gutter, sidewalk, water main, sanitary sewer, water and sewer services, and storm sewer, pursuant to Minnesota Statutes 429.011 to 429.111. The area proposed to be assessed for such improvement is property generally located between Cedar Street and the east City limits adjacent to State Street, and property generally located between Minnesota Street and Spruce Street, between Cedar Street and Maple Street. The project will involve assessments to non-abutting property. The estimated cost of the improvement is $1,556,949. A reasonable estimate of the impact of the assessment will be available at the hearing. Such persons as desire to be heard with reference to the proposed improvement will be heard at this meeting

Lori Hellmann
City Clerk
City of Grey Eagle

F28-M7C

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NOTICE OF ANNUAL MEETING AND ELECTION OF OFFICERS

Notice is hereby given to the qualified voters of Birchdale Township County of Todd State of Minnesota, for the annual Election of Town Officers and Annual Town Meeting which will be held on Tuesday, March 13, 2007. In case of inclement weather, the meeting and election may be postponed until the third Tuesday in March, March 20, 2007

The Election Poll hours will be from 4:00 to 8:00 p.m., at which time the voters will elect three supervisors

The Annual Meeting will commence at 8:15 p.m. to conduct all necessary business prescribed by law

The Annual Election and Meeting will be held at the Birchdale Town Hall

Herb Deivid
Town Clerk, Town of Birchdale
February 21, 2007

F28-M7C

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NOTICE
OF MORTGAGE FORECLOSURE SALE

NOTICE IS HEREBY GIVEN that default has occurred in the conditions of the following described mortgage

DATE OF MORTGAGE July 22, 1997
ORIGINAL PRINCIPAL AMOUNT OF MORTGAGE $23,751.20
MORTGAGOR(S): Darrel L. Nelson
MORTGAGEE: The First National Bank of Osakis
DATE AND PLACE OF RECORDING July 25, 1997
Todd County Recorder
DOCUMENT NUMBER: 375465
LEGAL DESCRIPTION.
SEE ATTACHED EXHIBIT A
COUNTY IN WHICH PROPERTY LOCATED: TODD
AMOUNT DUE AND CLAIMED TO BE DUE AS OF DATE OF NOTICE, INCLUDING TAXES, IF ANY, PAID BY MORTGAGEE $18,867.33

THAT prior to the commencement of this mortgage foreclosure proceeding Mortgagee complied with all notice requirements as required by statute.

THAT no action or proceeding has been instituted at law or otherwise to recover the debt secured by said mortgage, or any part thereof.

PURSUANT to the power of sale contained in said mortgage, the above described property will be sold by the Sheriff of said county as follows:

DATE AND TIME OF SALE March 22, 2007 @ 10:00 a.m.

PLACE OF SALE.
TODD COUNTY SHERIFF'S DEPARTMENT MAIN OFFICE
TODD COUNTY DETENTION CENTER
115 THIRD STREET SOUTH
LONG PRAIRIE, MINNESOTA 56347

to pay the debt secured by said mortgage and taxes, if any, on said premises and the costs and disbursements, including attorney's fees allowed by law subject to redemption within six (6) months from the date of said sale by the mortgagor(s), their personal representatives or assigns.

AT THE TIME OF THE COMMENCEMENT OF SAID MORTGAGE FORECLOSURE PROCEEDINGS, SAID LANDS WERE NOT AGRICULTURAL LANDS AS DEFINED BY THE MINNESOTA OMNIBUS FARM ACT, LAWS OF 1986, CHAPTER 398

THE TIME ALLOWED BY LAW FOR REDEMPTION BY THE MORTGAGOR, THE MORTGAGOR'S PERSONAL REPRESENTATIVES OR ASSIGNS, MAY BE REDUCED TO FIVE WEEKS IF A JUDICIAL ORDER IS ENTERED UNDER MINNESOTA STATUTES, SECTION 582.032, DETERMINING, AMONG OTHER THINGS, THAT THE MORTGAGED PREMISES ARE IMPROVED WITH A RESIDENTIAL DWELLING OF LESS THAN FIVE UNITS, ARE NOT PROPERTY USED IN AGRICULTURAL PRODUCTION, AND ARE ABANDONED.

THIS IS AN ATTEMPT TO COLLECT A DEBT, AND ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE THE RIGHT TO VERIFICATION OF THE DEBT AND IDENTITY OF THE ORIGINAL CREDITOR WITHIN THE TIME PROVIDED BY LAW IS NOT AFFECTED BY THIS ACTION

Mortgagors released from financial obligations on mortgage None
Dated: January 26, 2007
THE FIRST NATIONAL BANK OF OSAKIS
By_____
Scott T. Johnson
Attorney Reg. No. 52334
Attorney for Mortgagee
THIS INSTRUMENT DRAFTED BY
JOHNSTON LAW OFFICE
510 22nd Avenue East, Suite 101,
P.O. Box 1218
Alexandria MN 56308-1218
320 762 8814
OUR FILE NO. 07-227STJ/AAB/OSAKIS BANK NELSON FORECLOSURE

EXHIBIT A

That part of the South Half of the Southwest Quarter of Section 8, Township 129 North, Range 35 West, Todd County, Minnesota, described as follows:

Commencing at the northwest corner of said South Half of the Southwest Quarter; thence South 89 degrees 55 minutes 35 seconds East, along the north line of said South Half of the Southwest Quarter, 1892.74 feet to the point of beginning of the land to be described; thence South 89 degrees 55 minutes 35 seconds East, continuing along said north line, 411.62 feet; thence South 03 degrees 21 minutes 32 seconds East 315.50 feet; thence South 28 degrees 46 minutes 16 seconds West 160.35 feet; thence North 81 degrees 30 minutes 30 seconds West 308.25 feet; thence North 06 degrees 40 minutes 34 seconds West 413.33 feet to the point of beginning.

SUBJECT TO

An easement for ingress, egress and utility purposes over, under and across that part of the South Half of the Southwest Quarter of Section 8, Township 129 North, Range 35 West, Todd County, Minnesota, described as follows:

Commencing at the northwest corner of said South Half of the Southwest Quarter; thence South 89 degrees 55 minutes 35 seconds East along the north line of said South Half of the Southwest Quarter, 1892.74 feet to the point of beginning of the easement to be described; thence South 06 degrees 40 minutes 34 seconds East 413.33 feet; thence South 81 degrees 30 minutes 30 seconds East 103.61 feet; thence North 06 degrees 40 minutes 34 seconds West 428.81 feet to aforesaid north line of the South Half of the Southwest Quarter; thence North 89 degrees 55 minutes 35 seconds West, along said line, 100.70 feet to the point of beginning.

J31-M7C

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BRUCE TOWNSHIP

The Bruce Township Board will be holding their Reorganizational and monthly meeting on March 20, 2007 at 7:00 p.m.
Beverly Eggerth, Clerk

F28C

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NOTICE
OF MORTGAGE FORECLOSURE SALE

NOTICE IS HEREBY GIVEN that default has occurred in the conditions of the following described mortgage:

DATE OF MORTGAGE: May 19, 2004
ORIGINAL PRINCIPAL AMOUNT OF MORTGAGE: $92,800.00
MORTGAGOR(S): Raul Zamora Aguilar and Maria Aguilar, Husband and Wife
MORTGAGEE: Mortgage Electronic Registration Systems, Inc.
DATE AND PLACE OF RECORDING: Recorded: May 28, 2004
Todd County Recorder
Document #: 426481

LEGAL DESCRIPTION OF PROPERTY: That part of Lot Four (4) and Lot Five (5), Block One (1), Budgett's First Addition to the City of Long Prairie, according to the plat thereof on file and of record in the office of the County Recorder in and for said County and State, described as follows: Commencing at the Southeast corner of said Lot 5; thence West a distance of 109 feet to the point of beginning of the tract to be described herein; thence North parallel with the East line of Block 1, Budgett's First Addition to the North line of Lot 5, thence continuing North parallel with the East line of Block 1, Budgett's First Addition a distance of 10 feet; thence West parallel with the South line of said Lot 5, Block 1 Budgett's First Addition a distance of 106.5 feet; thence South to the South line of said Lot 5 to a point 108.5 feet West of the point of beginning; thence East along the South line of Lot 5, Block 1, Budgett's First Addition to the point of beginning.

COUNTY IN WHICH PROPERTY IS LOCATED: Todd

AMOUNT DUE AND CLAIMED TO BE DUE AS OF DATE OF NOTICE: $95,851.42

THAT all pre-foreclosure requirements have been complied with; that no action or proceeding has been instituted at law or otherwise to recover the debt secured by said mortgage, or any part thereof;

PURSUANT to the power of sale contained in said mortgage, the above described property will be sold by the Sheriff of said county as follows:

DATE AND TIME OF SALE: March 15, 2007 10:00 A.M.

PLACE OF SALE:
Sheriff's Main Office
Todd County Detention Center
115 Third Street South
Long Prairie, MN

to pay the debt secured by said mortgage and taxes, if any, on said premises and the costs and disbursements, including attorneys fees allowed by law, subject to redemption within 6 months from the date of said sale by the mortgagor(s), their personal representatives or assigns.

Mortgagor(s) released from financial obligation: NONE

THIS COMMUNICATION IS FROM A DEBT COLLECTOR ATTEMPTING TO COLLECT A DEBT. ANY INFORMATION OBTAINED WILL BE USED FOR THAT PURPOSE.

THE RIGHT TO VERIFICATION OF THE DEBT AND IDENTITY OF THE ORIGINAL CREDITOR WITHIN THE TIME PROVIDED BY LAW IS NOT AFFECTED BY THIS ACTION.

THE TIME ALLOWED BY LAW FOR REDEMPTION BY THE MORTGAGOR, THE MORTGAGOR'S PERSONAL REPRESENTATIVES OR ASSIGNS, MAY BE REDUCED TO FIVE WEEKS IF A JUDICIAL ORDER IS ENTERED UNDER MINNESOTA STATUTES, SECTION 582.032, DETERMINING, AMONG OTHER THINGS, THAT THE MORTGAGED PREMISES ARE IMPROVED WITH A RESIDENTIAL DWELLING OF LESS THAN FIVE UNITS, ARE NOT PROPERTY USED IN AGRICULTURAL PRODUCTION, AND ARE ABANDONED.

Dated: January 24, 2007
Mortgage Electronic Registration Systems, Inc.
Mortgagee
Wilford & Geske
Attorneys for Mortgagee
Lawrence A. Wilford
James A. Geske
7650 Currell Boulevard
Suite 300
Woodbury, Minnesota 55125
(651) 209-3300
File ID: 10320

J24-F28C

o o o

BRUCE TOWNSHIP
PLANNING AND ZONING COMMISSION

The Bruce Township Planning and Zoning Commission will be holding their March meeting on March 21, 2007 at 7:00 p.m.
Beverly Eggerth, Clerk

F28C

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NOTICE
OF MORTGAGE FORECLOSURE SALE
THE RIGHT TO VERIFICATION OF THE DEBT AND IDENTITY OF THE ORIGINAL CREDITOR WITHIN THE TIME PROVIDED BY LAW IS NOT AFFECTED BY THIS ACTION.

NOTICE IS HEREBY GIVEN, that default has occurred in conditions of the following described mortgage

DATE OF MORTGAGE: January 24, 2001
MORTGAGOR: Matthew E. Bratlin, a single person
MORTGAGEE: American Home Loans
DATE AND PLACE OF RECORDING Recorded: April 9, 2001, Todd County Recorder, Document No. 399982
ASSIGNMENTS OF MORTGAGE. Assigned to: National City Mortgage Co n/k/a National City Real Estate Services LLC d/b/a Accubanc Mortgage Dated: January 24, 2001, Recorded: April 9, 2001, Document No. 399964
LEGAL DESCRIPTION OF PROPERTY.

The North Half of the Southeast Quarter of the Northwest Quarter of Section Four Township 132 North, Range 33 West, Todd County, Minnesota

COUNTY IN WHICH PROPERTY IS LOCATED: Todd

ORIGINAL PRINCIPAL AMOUNT OF MORTGAGE: $104,000.00

AMOUNT DUE AND CLAIMED TO BE DUE AS OF DATE OF NOTICE, INCLUDING TAXES, IF ANY, PAID BY MORTGAGEE: $110,736.86

That prior to the commencement of this mortgage foreclosure proceeding Mortgagee/Assignee of Mortgagee complied with all notice requirements as required by statute. That no action or proceeding has been instituted at law or otherwise to recover the debt secured by said mortgage, or any part thereof,

PURSUANT to the power of sale contained in said mortgage, the above described property will be sold by the Sheriff of said county as follows:

DATE AND TIME OF SALE: March 29, 2007 at 10:00 AM

PLACE OF SALE: Sheriff's Office, Todd County Detention Center, Long Prairie, MN to pay the debt then secured by said Mortgage, and taxes, if any, on said premises, and the costs and disbursements, including attorneys' fees allowed by law subject to redemption within twelve (12) months from the date of said sale by the mortgagor(s), their personal representatives or assigns.

MORTGAGOR(S) RELEASED FROM FINANCIAL OBLIGATION ON MORTGAGE None

"THE TIME ALLOWED BY LAW FOR REDEMPTION BY THE MORTGAGOR, THE MORTGAGOR'S PERSONAL REPRESENTATIVES OR ASSIGNS, MAY BE REDUCED TO FIVE WEEKS IF A JUDICIAL ORDER IS ENTERED UNDER MINNESOTA STATUTES, SECTION 582.032, DETERMINING, AMONG OTHER THINGS, THAT THE MORTGAGED PREMISES ARE IMPROVED WITH A RESIDENTIAL DWELLING OF LESS THAN FIVE UNITS, ARE NOT PROPERTY USED IN AGRICULTURAL PRODUCTION, AND ARE ABANDONED."

Dated: February 1, 2007
National City Real Estate Services LLC
Mortgagee/Assignee of Mortgagee
USSET & WEINGARDEN P.L.L.P.
-s- Paul A. Weingarden
Paul A. Weingarden
Attorneys for Mortgagee/
Assignee of Mortgagee
4500 Park Glen Road #120
Minneapolis, MN 55416
(952) 925-6888
4-748
9742059

THIS IS A COMMUNICATION FROM A DEBT COLLECTOR.

F7-M14C

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Notice
West Union Township

The Annual Meeting of the West Union Township will be held Tuesday, March 13, 2007 at 1:30 p.m. with Election immediately following and the Polls will remain open until 8:00 P.M.

Officers to be voted on include.

One (1) Supervisor for a three (3) year term,

One (1) Treasurer for a two (2) year term.

In case of inclement weather, the Meeting will be held one week later on March 20, same time and place.

Charles R. Hector, Clerk
West Union Township

F28C

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CERTIFICATE OF ASSUMED NAME
Minnesota Statutes Chapter 333

1. State the exact assumed name under which the business is or will be conducted:
Mobile Modular Movers

2. State the address of the principal place of business
17427 Co. 97
Long Prairie, MN 56347

3. List the name and complete street address of all persons conducting business under the above Assumed Name or if the business is a corporation, provide the legal corporate name and registered office address of the corporation.
Darryl Kuhlmann
17427 Co. 97
Long Prairie, MN 56347

4. I certify that I am authorized to sign this certificate and I further certify that I understand that by signing this certificate, I am subject to the penalties of perjury as set forth in Minnesota Statutes section 609.48 as if I had signed this certificate under oath.

Date: 2-2-07
Signature: -s- Darryl Kuhlmann
Print Name and Title: Darryl Kuhlmann, owner
Contact person: Darryl Kuhlmann
Daytime Phone Number: 320-732-6820

F21-28C

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APPENDIX D

Groundwater Elevations
Long Prairie Ground Water Contamination Superfund Site
Long Prairie, Minnesota

MW-1A

Date	Depth to Water (ft)	Water Elevation (ft)	Riser Elevation (ft)	Comments
07/07/95	NA	NA	NA	
07/10/95	NA	NA	NA	
07/11/95	NA	NA	NA	
07/12/95	NA	NA	NA	
07/13/95	NA	NA	NA	
07/26/95	NA	NA	NA	
05/06/96	NA	NA	NA	
05/07/96	NA	NA	NA	
05/08/96	NA	NA	NA	
05/09/96	NA	NA	NA	
05/15/96	NA	NA	NA	
05/16/96	NA	NA	NA	
05/17/96	NA	NA	NA	
05/20/96	NA	NA	NA	
05/21/96	NA	NA	NA	
05/22/96	NA	NA	NA	
05/23/96	NA	NA	NA	
05/28/96	NA	NA	NA	
06/18/96	NA	NA	NA	
10/28/96	11.60	1284.82	1296.42	
04/04/97	9.43	1286.99	1296.42	
04/23/97	9.06	1287.36	1296.42	
06/10/97	10.33	1286.09	1296.42	
08/26/97	10.78	1285.64	1296.42	
11/18/97	11.64	1284.78	1296.42	
03/19/98	11.33	1285.09	1296.42	
05/20/98	10.47	1285.95	1296.42	
08/26/98	11.42	1285.00	1296.42	
09/21/98	NA	NA	1296.42	
10/23/98	10.82	1285.60	1296.42	
11/1198	NA	NA	1296.42	
03/24/99	10.60	1285.82	1296.42	
05/12/99	9.89	1286.53	1296.42	
09/09/99	10.86	1285.56	1296.42	
09/21/99	NA	NA	1296.42	
10/25/99	11.44	1284.98	1296.42	
10/26/99	NA	NA	1296.42	
10/27/99	NA	NA	1296.42	
11/26/99	NA	NA	1296.42	
03/16/00	11.19	1285.23	1296.42	
06/26/00	11.45	1284.97	1296.42	
09/18/00	12.36	1284.06	1296.42	
12/26/00	NA	NA	1296.42	
01/04/01	12.01	1284.41	1296.42	
03/28/01	11.56	1284.86	1296.42	
06/22/01	8.69	1287.73	1296.42	
09/11/01	11.31	1285.11	1296.42	
10/12/01	11.79	1284.63	1296.42	
01/31/02	11.98	1284.44	1296.42	
04/03/02	11.02	1285.40	1296.42	
05/31/02	NA	NA	1296.42	
06/03/02	NA	NA	1296.42	
07/26/02	10.23	1286.19	1296.42	
10/15/02	11.20	1285.22	1296.42	
01/30/03	11.96	1284.46	1296.42	
05/12/03	10.56	1285.86	1296.42	
07/21/03	9.36	1287.06	1296.42	
10/16/03	11.71	1284.71	1296.42	
03/10/04	11.76	1284.66	1296.42	
05/18/04	11.42	1285.00	1296.42	
07/19/04	11.80	1284.62	1296.42	
10/18/04	11.41	1285.01	1296.42	
02/23/05	11.87	1284.55	1296.42	
04/25/05	10.07	1286.35	1296.42	
07/26/05	10.77	1285.65	1296.42	
10/25/05	10.14	1286.28	1296.42	
01/25/06	10.86	1285.56	1296.42	
04/24/06	10.20	1286.22	1296.42	
07/10/06	11.82	1284.60	1296.42	
10/09/06	12.20	1284.22	1296.42	
01/30/07	12.39	1284.03	1296.42	
04/09/07	9.55	1286.87	1296.42	

Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
BAL2B	10/16/02		<0.50	<0.50	NA	<0.50	<0.50	NA
BAL2B	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
BAL2C	10/28/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	05/21/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	05/14/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	10/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
BAL2C	10/16/02		<0.50	<0.50	NA	<0.50	<0.50	NA
CW3	10/30/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	08/26/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	03/19/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	08/27/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	11/04/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	03/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	06/03/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	09/09/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	03/15/00		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW3	06/15/00		<0.40	<0.30	NA	**0.34**	NA	NA
CW3	07/21/00		<0.40	<0.30	NA	**0.67**	<0.30	NA
CW3	08/31/00		<0.50	<0.50	NA	<0.50	<0.50	NA
CW3	09/19/00		<0.50	<0.50	NA	<0.50	<0.50	NA
CW3	10/26/00		<0.50	<0.50	NA	<0.50	<0.50	NA
CW3	01/18/01		<0.50	<0.50	NA	**0.73**	<0.50	NA
CW3	03/23/01		<0.50	<0.50	NA	**0.62**	<0.50	NA
CW3	05/22/01		<0.50	<0.50	NA	**0.56**	<0.50	NA
CW3	09/13/01		<0.50	<0.50	NA	**0.97**	<0.50	NA
CW3	11/29/01		<0.50	<0.50	NA	<0.50	<0.50	NA
CW3	01/31/02		<0.50	<0.50	<0.50	<0.50	<0.50	NA
CW3	04/03/02		<0.50	<0.50	<0.50	**0.52**	<0.50	NA
CW3	07/25/02		<0.50	<0.50	<0.50	<0.50	<0.50	NA
CW3	10/17/02		<0.50	<0.50	<0.50	**0.66**	<0.50	NA
CW3	01/30/03		NA	NA	NA	NA	NA	NA
CW3	05/16/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
CW3	07/14/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
CW3	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW3	03/10/04		**>0.37<**	**>0.23<**	NA	**>0.33<**	<0.14	<0.25
CW3	05/17/04		**>0.70<**	**>0.34<**	NA	**>0.32<**	<0.14	<0.25
CW3	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CW3	04/25/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW3	11/10/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW3	05/05/06		<1.0	<1.0	NA	<1.0	<1.0	<0.40
CW3	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
CW3	05/23/07	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
CW4	11/05/02		**1.2**	**0.68**	NA	**1.5**	<0.50	NA
CW6	06/11/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	03/19/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
CW6	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	08/27/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	11/04/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	03/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	06/03/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	09/09/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	03/15/00		<1.0	<1.0	<1.0	<1.0	<1.0	NA
CW6	04/03/02		<0.50	<0.50	NA	<0.50	<0.50	NA
CW6	07/25/02		<0.50	<0.50	NA	<0.50	<0.50	NA
CW6	10/24/02		<0.50	<0.50	NA	<0.50	<0.50	NA
CW6	01/30/03		NA	NA	NA	NA	NA	NA
CW6	05/16/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
CW6	07/14/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
CW6	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW6	03/10/04	B	<0.19	<0.073	NA	<0.10	<0.14	**>0.86<**
CW6	05/17/04		<0.19	<0.073	NA	<0.10	<0.14	<0.25
CW6	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
CW6	04/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW6	11/10/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
CW6	05/05/06		<1.0	<1.0	NA	<1.0	<1.0	<0.40
CW6	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
CW6	05/23/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW1A	10/28/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	10/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1A	10/15/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW1B	10/28/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	05/21/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	10/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW1B	10/15/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW1B	10/15/02	DUP	<0.50	<0.50	NA	<0.50	<0.50	NA
MW2A	06/10/97		**5.7**	<1.0	<1.0	<1.0	<1.0	NA
MW2A	05/22/98		**8.9**	<1.0	<1.0	<1.0	<1.0	NA
MW2A	05/14/99		**76.0**	<1.0	<1.0	<1.0	<1.0	NA
MW2A	09/20/00		**11.0**	**0.62**	NA	**5.3**	<0.50	NA
MW2A	09/11/01		**5.2**	**0.57**	NA	**2.4**	<0.50	NA
MW2A	10/17/02		**1.0**	<0.50	NA	<0.50	<0.50	NA
MW2A	10/19/04		**2.0**	<1.0	<1.0	<1.0	<1.0	<1.0
MW2A	10/26/05		**1.6**	<1.0	<1.0	<1.0	<1.0	<0.18
MW2A	10/10/06		**3.6**	<1.0	<1.0	<1.0	<1.0	<0.18
MW2B	06/10/97		**120.0**	**5.6**	<1.0	**3.1**	<1.0	NA
MW2B	06/10/97		**5.8**	<1.0	<1.0	<1.0	<1.0	NA
MW2B	05/21/98		**1200.0**	**13**	<1.0	**5**	<1.0	NA
MW2B	05/14/99		**1100.0**	**25**	<1.0	**570**	**4.2**	NA
MW2B	05/14/99	DUP	**840.0**	**24**	<1.0	**560**	**3.8**	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW2B	09/20/00		71.0	3.4	NA	58	<0.50	NA
MW2B	09/11/01		38.0	6.8	NA	77	1.6	NA
MW2B	10/17/02		41.0	8.9	NA	58	<0.50	NA
MW2B	10/17/03		75.0	9.9	NA	85.0	<1.0	<1.0
MW2B	07/20/04		33.0	9.2	<0.57	130.0	<0.89	1.5
MW2B	10/21/04		49.0	8.4	<1.0	99.0	<1.0	<1.0
MW2B	04/26/05		29	8.2	NA	18	<1.0	<1.0
MW2B	10/26/05	*	24	1.6	<1.0	3.4	<1.0	<0.18
MW2B	10/24/05	DUP-1*	24	1.2	<1.0	3.3	<1.0	<1.0
MW2B	04/25/06		13	4.8	NA	13	<1.0	<0.18
MW2B	10/11/06	*	30	1.8	<1.0	2.4	<1.0	<0.18
MW2B	10/11/06	DUP-1*	30	2.0	<1.0	1.7	<1.0	<0.18
MW2B	04/11/07		30	11.0	<1.0	37.0	<1.0	<0.18
MW2C	06/10/97		7.6	<1.0	<1.0	3.4	<1.0	NA
MW2C	05/20/98		9.4	<1.0	<1.0	3.9	<1.0	NA
MW2C	05/14/99		5.1	<1.0	<1.0	9.8	<1.0	NA
MW2C	09/07/99		<1.0	4.8	<1.0	7	<1.0	NA
MW2C	10/26/99		3.4	2.8	<1.0	6.6	<1.0	NA
MW2C	09/18/00		<0.50	<0.50	NA	4.3	<0.50	NA
MW2C	09/11/01		<0.50	<0.50	NA	2.2	<0.50	NA
MW2C	10/17/02		6.9	5.3	NA	30	<0.50	NA
MW2C	10/19/04		15.0	4.0	<1.0	35	<1.0	1.0
MW2C	10/19/04	DUP-4	14.0	3.8	<1.0	36	<1.0	1.2
MW2C	10/26/05		4.7	1.4	<1.0	<1.0	<1.0	<0.18
MW2C	10/24/05	DUP-2	5.5	1.4	<1.0	<1.0	<1.0	<1.0
MW2C	10/10/06		7.7	3.1	<1.0	17	<1.0	1.2
MW2C	10/11/06	DUP-2	6.7	3.1	<1.0	19	<1.0	1.1
MW3A	10/29/96		4.6	<1.0	<1.0	<1.0	<1.0	NA
MW3A	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	10/26/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3A	10/15/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW3A	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW3A	10/24/05	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW3A	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW3B	10/29/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	10/31/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	05/14/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	10/26/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW3B	10/15/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW3B	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW4A	05/14/99		7.4	<1.0	<1.0	<1.0	<1.0	NA
MW4A	10/17/02		33.0	2.4	NA	1.4	<0.50	NA
MW4B	06/10/97		320.0	52.0	<1.0	22.0	<1.0	NA
MW4B	05/22/98		410.0	54.0	<1.0	14.0	<1.0	NA
MW4B	05/14/99		230.0	31.0	<1.0	6.5	<1.0	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW4B	09/20/00		140.0	24.0	NA	8.0	<0.50	NA
MW4B	09/11/01		140.0	38.0	NA	5.7	0.83	NA
MW4B	10/17/02		77.0	23.0	NA	5.0	<0.50	NA
MW4B	10/16/03		160.0	26.0	NA	4.2	<1.0	<1.0
MW4B	10/16/03	MS	130.0	51.0	NA	5.3	<1.0	<1.0
MW4B	10/16/03	MSD	120.0	49.0	NA	6.2	<1.0	<1.0
MW4B	10/19/04		140.0	24.0	<1.0	3.5	<1.0	<1.0
MW4B	10/27/05		94	28	<1.0	2.6	<1.0	<1.0
MW4B	10/11/06		70	28	<1.0	2.2	<1.0	<1.0
MW4B	04/12/07		47	44	<1.0	7.6	<1.0	<1.0
MW4B	05/22/07		26	37	<1.0	8.7	<1.0	<1.0
MW4C	06/10/97		70.0	<1.0	<1.0	8.5	<1.0	NA
MW4C	05/20/98		120.0	50.0	<1.0	12.0	<1.0	NA
MW4C	05/14/99		170.0	40.0	<1.0	14.0	<1.0	NA
MW4C	09/07/99		120.0	74.0	<1.0	11.0	<1.0	NA
MW4C	10/26/99		140.0	40.0	<1.0	11.0	<1.0	NA
MW4C	09/19/00		120.0	34.0	NA	6.5	<0.50	NA
MW4C	09/19/00	DUP	110.0	30.0	NA	6.3	<0.50	NA
MW4C	09/11/01		66.0	84.0	NA	6.3	0.73	NA
MW4C	09/11/01	DUP	63.0	79.0	NA	6.4	0.74	NA
MW4C	10/17/02		51.0	60.0	NA	18.0	<0.50	NA
MW4C	10/16/03		140.0	80.0	NA	8.2	<1.0	<1.0
MW4C	10/19/04		100.0	77.0	<1.0	8.1	<1.0	<1.0
MW4C	10/27/05		83	84	<1.0	7.5	<1.0	<0.18
MW4C	10/11/06		47	84	<1.0	6.5	<1.0	<0.18
MW4C	04/12/07	*	43	63	<1.0	8.9	<1.0	<0.18
MW4C	05/22/07	*	27	86	<1.0	17	<1.0	<0.18
MW5A	10/28/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	05/22/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	10/23/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	10/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5A	10/16/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW5A	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW5B	10/28/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	05/21/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	10/23/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	10/25/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW5B	10/16/02		<0.50	<0.50	NA	0.78	<0.50	NA
MW5B	10/16/03		<1.0	<1.0	NA	1.0	<1.0	<1.0
MW5B	10/16/03	DUP	<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW5B	07/20/04		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
MW5B	10/21/04		<1.0 J	<1.0 J	<1.0 J	<1.0 J	<1.0 J	<1.0 J
MW6A	06/10/97		6.9	<1.0	<1.0	<1.0	<1.0	NA
MW6A	05/20/98		28.0	3.1	<1.0	2.6	<1.0	NA
MW6A	05/14/99		310.0	32.0	<1.0	29.0	<1.0	NA
MW6A	05/14/99	DUP	440.0	33.0	<1.0	30.0	1.1	NA
MW6A	09/20/00		54.0	21.0	NA	41.0	<0.50	NA
MW6A	09/11/01		54.0	4.3	NA	1.2	<0.50	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW6A	10/17/02		<0.50	<0.50	NA	8.2	1.7	NA
MW6A	10/25/05		2.6	<1.0	<1.0	<1.0	<1.0	<0.18
MW6A	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW6B	06/10/97		1000.0	85.0	<17	93.0	<17	NA
MW6B	05/20/98		320.0	22.0	<12	10.0	<12	NA
MW6B	05/14/99		260.0	15.0	<1.0	8.7	<1.0	NA
MW6B	09/20/00		47.0	15.0	NA	2.6	<0.50	NA
MW6B	09/11/01		37.0	8.8	NA	1.6	0.6	NA
MW6B	10/17/02		4.7	1.4	NA	<0.50	<0.50	NA
MW6B	10/17/03		39.0	4.1	NA	1.1	<1.0	<1.0
MW6B	07/20/04		19.0	2.4	<0.57	<0.83	<0.89	<0.18
MW6B	10/21/04		15.0	2.7	<1.0	1.2	<1.0	<1.0
MW6B	10/21/04	DUP-5	14.0	2.1	<1.0	<1.0	<1.0	<1.0
MW6B	04/26/05		16.0	3.2	NA	<1.0	<1.0	<1.0
MW6B	04/26/05	DUP-2	17.0	3.4	NA	<1.0	<1.0	<1.0
MW6B	10/25/05		19.0	2.2	<1.0	<1.0	<1.0	<0.18
MW6B	04/25/06		20	2.3	NA	<1.0	<1.0	<0.18
MW6B	04/25/06	DUP-2	19	2.2	NA	<1.0	<1.0	<0.18
MW6B	10/10/06		19	1.6	<1.0	<1.0	<1.0	<0.18
MW6B	04/11/07		23	3.7	<1.0	1.8	<1.0	<0.18
MW6C	05/20/98		100.0	28	<1.0	17	<1.0	NA
MW6C	05/14/99		210.0	21	<1.0	6.4	<1.0	NA
MW6C	09/08/99		110.0	47 D	<1.0	8.7	<1.0	NA
MW6C	10/26/99		110.0	29	<1.0	6.1	<1.0	NA
MW6C	09/18/00		21.0	16	NA	21	<0.50	NA
MW6C	09/11/01		12.0	6.6	NA	6.7	0.6	NA
MW6C	10/17/02		25.0	4.2	NA	2.1	<0.50	NA
MW6C	10/17/03		34.0	4.2	NA	1.7	<1.0	<1.0
MW6C	07/20/04		17.0	2.2	<0.57	<0.83	<0.89	<0.18
MW6C	10/21/04		17.0	1.6	<1.0	<1.0	<1.0	<1.0
MW6C	10/26/05	*	19	2.4	<1.0	1.5	<1.0	<0.18
MW6C	10/10/06		21	2.3	<1.0	2.4	<1.0	<0.18
MW10	10/29/96		150000.0	17	<1.0	1.8	<1.0	NA
MW10	06/11/97		6100.0	<310	<310	<310	<310	NA
MW10	11/18/97		1900.0	<10	<10	<10	<10	NA
MW10	05/22/98		1300.0	<50	<50	<50	<50	NA
MW10	11/04/98		550.0	<5.0	<5.0	<5.0	<5.0	NA
MW10	05/20/99		99.0	<1.0	<1.0	<1.0	<1.0	NA
MW10	10/27/99		65.0	8.0	<1.0	<1.0	<1.0	NA
MW10A	09/20/00		84.0	1	NA	<0.50	<0.50	NA
MW10A	09/13/01		49.0	<0.50	NA	<0.50	<0.50	NA
MW10A	10/17/02		38.0	0.69	NA	<0.50	<0.50	NA
MW10A	10/16/03		58.0	<1.0	NA	<1.0	<1.0	<1.0
MW10A	07/20/04		64.0	0.81	<0.57	<0.83	<0.89	<0.18
MW10A	10/21/04		66.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW10A	04/26/05		83	1.1	NA	<1.0	<1.0	<1.0
MW10A	10/26/05		69	<1.0	<1.0	<1.0	<1.0	<0.18
MW10A	04/25/06		55	<1.0	NA	<1.0	<1.0	<0.18
MW10A	10/11/06	*	40	<1.0	<1.0	<1.0	<1.0	<0.18
MW10A	04/12/07		44	<1.0	<1.0	<1.0	<1.0	<0.18
MW11A	09/21/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11A	10/16/02		<0.50	<0.50	NA	<0.50	<0.50	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW11B	09/21/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11B	09/20/00		<0.50	<0.50	NA	<0.50	<0.50	NA
MW11B	09/13/01		<0.50	<0.50	NA	0.67	<0.50	NA
MW11B	10/16/02		<0.50	<0.50	NA	1.1	<0.50	NA
MW11B	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW11B	07/20/04		<0.45	<0.48	<0.57	1.1	<0.89	<0.18
MW11B	10/21/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW11B	10/24/05	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW11B	10/10/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW11C	06/10/97		1.4	<1.0	<1.0	<1.0	<1.0	NA
MW11C	05/21/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11C	05/14/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11C	09/08/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11C	10/26/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW11C	09/19/00		<0.50	<0.50	NA	<0.50	<0.50	NA
MW11C	09/13/01		<0.50	<0.50	NA	<0.50	<0.50	NA
MW11C	10/16/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW11C	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW11C	07/21/04		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
MW11C	10/21/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW13C	10/28/96		<1.0	<1.0	<1.0	4.2	<1.0	NA
MW13C	06/10/97		<1.0	4.4	<1.0	3.4	<1.0	NA
MW13C	11/19/97		1.9	4	<1.0	4.1	<1.0	NA
MW13C	05/20/98		<1.0	5.9	<1.0	4.4	1.7	NA
MW13C	10/28/98		2.6	6.1	<1.0	5.7	2.2	NA
MW13C	05/14/99		<1.0	1.5	<1.0	6.7	1.3	NA
MW13C	09/08/99		<1.0	3.4	<1.0	19	5.3	NA
MW13C	10/26/99		<1.0	2.2	<1.0	17	4.3	NA
MW13C	10/26/99	DUP	<1.0	2.2	<1.0	16	4.7	NA
MW13C	10/17/02		<0.50	<0.50	NA	8.9	1.6	NA
MW13C	10/17/02	DUP	<0.50	<0.50	NA	3.5	1.2	NA
MW13C	10/16/03		<1.0	<1.0	NA	14.0	5.6	<1.0
MW13C	10/16/03	DUP	<1.0	<1.0	NA	14.0	5.5	<1.0
MW13C	10/19/04		<1.0	<1.0	<1.0	6.9	2.6	<1.0
MW13C	10/25/05		<1.0	<1.0	<1.0	4.6	2.5	<0.18
MW13C	10/10/06		<1.0	<1.0	<1.0	5.4	2.8	<0.18
MW14B	10/28/96		180.0	20.0	<1.0	6.6	<1.0	NA
MW14B	06/10/97		240.0	27.0	<1.0	31.0	<1.0	NA
MW14B	11/19/97		210.0	23.0	<1.0	15.0	<1.0	NA
MW14B	05/22/98		400.0	33.0	<1.0	15.0	<1.0	NA
MW14B	05/22/98	DUP	370.0	32.0	<1.0	15.0	<1.0	NA
MW14B	10/28/98		270.0	19.0	<1.0	5.9	<1.0	NA
MW14B	05/14/99		350.0	22.0	<1.0	5.0	<1.0	NA
MW14B	10/26/99		210.0	17.0	<1.0	2.1	<1.0	NA
MW14B	09/20/00		140.0	23.0	NA	2.5	1.4	NA
MW14B	09/12/01		130.0	21.0	NA	1.6	1.3	NA
MW14B	10/17/02		110.0	8.9	NA	1.0	<0.50	NA
MW14B	10/16/03		140.0	12.0	NA	1.4	<1.0	<1.0
MW14B	07/21/04		130.0	19.0	<0.57	1.4	<0.89	<0.18
MW14B	10/21/04	*	98.0	17.0	<1.0	1.3	<1.0	<1.0
MW14B	10/21/04	DUP-3 *	110.0	18.0	<1.0	1.6	<1.0	<1.0
MW14B	04/26/05		89	19	NA	2.5	<1.0	<1.0
MW14B	10/27/05		88	20	<1.0	1.9	<1.0	<0.18
MW14B	10/27/05	DUP-3	79	19	<1.0	1.8	<1.0	<0.18
MW14B	04/25/06		72	17	NA	1.9	<1.0	<0.18

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW14B	10/11/06		81	15	<1.0	<1.0	<1.0	<0.18
MW14B	10/11/06	DUP-3	76	14	<1.0	<1.0	<1.0	<0.18
MW14B	04/12/07		66	33	<1.0	1.5	<1.0	<0.18
MW14B	05/23/07	*	57	28	<1.0	1.1	<1.0	<0.18
MW14B	05/23/07	DUP	57	28	<1.0	1.0	<1.0	<0.18
MW14C	10/28/96		<1.0	<1.0	<1.0	1.4	<1.0	NA
MW14C	06/10/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	11/19/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	05/20/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	10/28/98		1.1	<1.0	<1.0	<1.0	<1.0	NA
MW14C	05/14/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	09/08/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	10/26/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW14C	09/19/00		<0.50	<0.50	NA	<0.50	<0.50	NA
MW14C	09/12/01		<0.50	<0.50	NA	0.73	<0.50	NA
MW14C	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW14C	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW14C	10/19/04		<1.0	<1.0	<1.0	3.0	<1.0	<1.0
MW14C	10/25/05		<1.0	<1.0	<1.0	3.5	<1.0	<0.18
MW14C	10/10/06		<1.0	<1.0	<1.0	4.2	<1.0	<0.18
MW14C	04/11/07		<1.0	1.9	<1.0	7.9	<1.0	<0.18
MW14C	05/22/07		<1.0	<1.0	<1.0	6.8	<1.0	<0.18
MW15A	10/21/98		<1.0	<1.0	<1.0	1.4	<1.0	NA
MW15A	05/13/99		<1.0	<1.0	<1.0	1.3	<1.0	NA
MW15A	09/09/99		<1.0	<1.0	<1.0	2.5	<1.0	NA
MW15A	10/27/99		<1.0	<1.0	<1.0	2.2	<1.0	NA
MW15A	09/20/00		<0.50	<0.50	NA	3.5	<0.50	NA
MW15A	09/11/01		<0.50	<0.50	NA	2.3	0.58	NA
MW15A	10/15/02		<0.50	<0.50	NA	3	<0.50	NA
MW15A	10/17/03		<1.0	<1.0	NA	1.9	<1.0	<1.0
MW15A	10/19/04	K	<10	<10	<10	<10	<10	<10
MW15A	10/25/05	*	<1.0	<1.0	<1.0	1.6	<1.0	<0.18
MW15A	07/25/06	*	<1.0	<1.0	<1.0	2	<1.0	<0.18
MW15A	10/09/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW15B	10/21/98		<1.0	<1.0	<1.0	1.4	<1.0	NA
MW15B	05/13/99		<1.0	<1.0	<1.0	1.6	<1.0	NA
MW15B	09/09/99		<1.0	<1.0	<1.0	2.4	<1.0	NA
MW15B	10/27/99		<1.0	<1.0	<1.0	2	<1.0	NA
MW15B	09/20/00		<0.50	<0.50	NA	4	<0.50	NA
MW15B	09/11/01		<0.50	<0.50	NA	2.4	<0.50	NA
MW15B	10/15/02		<0.50	<0.50	NA	1.9	<0.50	NA
MW15B	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW15B	10/19/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW15B	10/25/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW15B	07/25/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW15B	10/09/06		<1.0	<1.0	<1.0	2.4	<1.0	<0.18
MW16A	09/04/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW16A	10/28/98		1.1	<1.0	<1.0	<1.0	<1.0	NA
MW16A	05/13/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW16A	09/09/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW16A	09/09/99	DUP	<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW16A	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW16A	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW16A	10/19/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW16A	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW16B	09/04/98		7.7	1.1	<1.0	<1.0	<1.0	NA
MW16B	10/28/98		22.0	3.2	<1.0	<1.0	<1.0	NA
MW16B	05/13/99		15.0	3.3	<1.0	<1.0	<1.0	NA
MW16B	05/13/99	DUP	14.0	3.3	<1.0	<1.0	<1.0	NA
MW16B	09/09/99		6.5	2.3	<1.0	<1.0	<1.0	NA
MW16B	10/27/99		2.0	<1.0	<1.0	<1.0	<1.0	NA
MW16B	09/20/00		14.0	2.8	NA	2.3	<0.50	NA
MW16B	09/13/01		3.7	0.72	NA	0.81	<0.50	NA
MW16B	10/17/02		20.0	4.4	NA	2.6	<0.50	NA
MW16B	10/17/03		41.0	8.7	NA	2.2	<1.0	<1.0
MW16B	07/21/04		28.0	5.5	<0.57	3.2	<0.89	<0.18
MW16B	10/21/04		22.0	4.4	<1.0	3.1	<1.0	<1.0
MW16B	10/20/04	DUP-2	22.0	4.3	<1.0	3.1	<1.0	<1.0
MW16B	10/26/05		54	7.4	<1.0	1.6	<1.0	<0.18
MW16B	10/24/05	DUP-4	49	7.1	<1.0	1.5	<1.0	<0.18
MW16B	10/10/06		36	4.4	<1.0	2.4	<1.0	<0.18
MW16B	10/11/06	DUP-4	36	4.8	<1.0	2.5	<1.0	<0.18
MW17B	09/04/98		140.0	15	<1.0	5.5	<1.0	NA
MW17B	10/28/98		180.0	16	<1.0	6.1	<1.0	NA
MW17B	05/13/99		200.0	20	<1.0	8.5	<1.0	NA
MW17B	10/27/99		140.0	12	<1.0	5.6	<1.0	NA
MW17B	09/20/00		100.0	6.1	NA	3.3	<0.50	NA
MW17B	09/13/01		92.0	12	NA	4.2	0.6	NA
MW17B	10/17/02		40.0	13	NA	4.1	<0.50	NA
MW17B	10/17/03		95.0	32.0	NA	7.0	<1.0	<1.0
MW17B	07/21/04		56.0	29.0	<0.57	11.0	<0.89	<0.18
MW17B	07/21/04	DUP	55.0	29.0	<0.57	11.0	<0.89	<0.18
MW17B	10/21/04		61.0	30.0	<1.0	12.0	<1.0	<1.0
MW17B	04/26/05		46	39	NA	10	<1.0	<1.0
MW17B	04/26/05	DUP-1	46	39	NA	10	<1.0	<1.0
MW17B	10/26/05	*	44	34	<1.0	14	<1.0	<0.18
MW17B	04/25/06		22	19	NA	6.6	<1.0	<0.18
MW17B	04/25/06	DUP-1	19	17	NA	6.5	<1.0	<0.18
MW17B	10/11/06		42	7.4	<1.0	1.5	<1.0	<0.18
MW17B	04/11/07		53	10	<1.0	1.4	<1.0	<0.18
MW18A	09/04/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW18A	10/28/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW18A	05/14/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW18A	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
MW18A	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
MW18A	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW18A	04/26/05		3.4	<1.0	NA	<1.0	<1.0	<1.0
MW18A	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW18A	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW18B	09/04/98		2.4	<1.0	<1.0	1.4	<1.0	NA
MW18B	10/28/98		2.6	<1.0	<1.0	1.2	<1.0	NA
MW18B	05/14/99		2.2	1.2	<1.0	1.4	<1.0	NA
MW18B	10/27/99		1.2	2.8	<1.0	<1.0	<1.0	NA
MW18B	10/17/02		2.4	0.77	NA	0.56	<0.50	NA
MW18B	10/17/03		3.5	<1.0	NA	<1.0	<1.0	<1.0
MW18B	10/19/04		3.4	<1.0	<1.0	<1.0	<1.0	<1.0
MW18B	04/26/05		3.4	<1.0	NA	<1.0	<1.0	<1.0
MW18B	10/26/05		2.8	<1.0	<1.0	1.1	<1.0	<0.18

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
MW18B	04/25/06		2.9	<1.0	NA	<1.0	<1.0	<0.18
MW18B	10/10/06	DUP-2	2.1	<1.0	<1.0	<1.0	<1.0	<0.18
MW18B	04/11/07		2.7	<1.0	NA	<1.0	<1.0	<0.18
MW19B	09/04/98		<1.0	1.7	<1.0	4.3	<1.0	NA
MW19B	10/28/98		<1.0	1.7	<1.0	5.1	<1.0	NA
MW19B	07/07/99		<1.0	2.7	<1.0	4.4	<1.0	NA
MW19B	10/27/99		<1.0	4	<1.0	5.9	<1.0	NA
MW19B	09/20/00		<0.50	1.1	NA	13	<0.50	NA
MW19B	09/13/01		<0.50	0.91	NA	3.9	0.64	NA
MW19B	10/15/02		<0.50	<0.50	NA	4.6	<0.50	NA
MW19B	10/19/04		<1.0	<1.0	<1.0	1.6	<1.0	<1.0
MW19B	10/25/05		<1.0	<1.0	<1.0	1.2	<1.0	<0.18
MW19B	07/11/06		<1.0	<1.0	<1.0	1.1	<1.0	<0.18
MW19B	10/09/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20B	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW20B	04/25/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW20B	10/25/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20B	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
MW20B	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20B	04/10/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20B	05/22/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20C	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW20C	04/25/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
MW20C	10/25/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20C	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
MW20C	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW20C	04/10/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
MW21B	02/01/07		82	43	<1.0	2.6	<1.0	<1.0
MW21B	04/12/07		84	47	<1.0	2.7	<1.0	<1.0
MW21B	05/23/07		69	41	<1.0	3.2	<1.0	<1.0
MW21C	02/01/07		64	89	<1.0	4.5	<1.0	<1.0
MW21C	04/12/07	*	64	79	<1.0	5.7	<1.0	<1.0
MW21C	05/22/07		54	68	<1.0	5.9	1.2	<1.0
RW1A	05/07/96		20.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	05/16/96		32.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	05/22/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	06/04/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	10/29/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	11/18/97		2.2	<1.0	<1.0	<1.0	<1.0	NA
RW1A	03/26/98		1.7	<1.0	<1.0	<1.0	<1.0	NA
RW1A	05/21/98		1.8	<1.0	<1.0	<1.0	<1.0	NA
RW1A	09/13/98		1.3	<1.0	<1.0	<1.0	<1.0	NA
RW1A	10/22/98		1.8	<1.0	<1.0	<1.0	<1.0	NA
RW1A	05/20/99		1.5	<1.0	<1.0	<1.0	<1.0	NA
RW1A	10/27/99		1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1A	10/17/02		1.0	<0.50	NA	<0.50	<0.50	NA
RW1A	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
RW1A	04/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
RW1A	10/25/05	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1A	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
RW1A	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1A	04/10/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
RW1AWH	02/03/97		**1.6**	<1.0	<1.0	<1.0	<1.0	NA
RW1AWH	06/11/97		**2.0**	<1.0	<1.0	<1.0	<1.0	NA
RW1B	05/07/96		**22.8**	<1.0	<1.0	<1.0	<1.0	NA
RW1B	05/16/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	05/22/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	06/04/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	10/29/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	11/18/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	03/26/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	05/21/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	09/13/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	10/23/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	05/20/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	10/27/99	DUP	<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1B	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
RW1B	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
RW1B	04/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
RW1B	10/26/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1B	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
RW1B	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1B	04/10/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1BWH	02/03/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1BWH	06/11/97		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1C	05/07/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW1C	05/16/96		**43.0**	<1.0	<1.0	<1.0	<1.0	NA
RW1C	05/22/96		**40.0**	<1.0	<1.0	<1.0	<1.0	NA
RW1C	06/04/96		**28.0**	<1.0	<1.0	<1.0	<1.0	NA
RW1C	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
RW1C	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
RW1C	04/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
RW1C	10/26/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1C	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
RW1C	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW1C	04/10/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW3	05/07/96		**78.0**	**6.7**	<1.0	**2.0**	<1.0	NA
RW3	05/16/96		**99.0**	**11.0**	<1.0	**18.0**	<1.0	NA
RW3	05/22/96		**150.0**	**17.0**	<1.0	**19.0**	<1.0	NA
RW3	06/04/96		**140.0**	**13.0**	<1.0	**8.3**	<1.0	NA
RW3	10/29/96		**140.0**	**10.0**	<1.0	<1.0	<1.0	NA
RW3	02/18/97		**83.0**	**7.6**	<1.0	**8.1**	<1.0	NA
RW3	06/09/97		**98.0**	**7.4**	<1.0	**7.4**	<1.0	NA
RW3	06/09/97		**97.0**	**7.7**	<1.0	**7.7**	<1.0	NA
RW3	08/26/97		**110.0**	**8.6**	<1.0	**13.0**	<1.0	NA
RW3	08/26/97		**120.0**	**9.0**	<1.0	**13.0**	<1.0	NA
RW3	11/18/97		**100.0**	**7.6**	<1.0	**14.0**	<1.0	NA
RW3	11/18/97	DUP	**100.0**	**7.6**	<1.0	**14.0**	<1.0	NA
RW3	03/19/98		**150.0**	**7.8**	<1.0	**19.0**	<1.0	NA
RW3	03/19/98	DUP	**150.0**	**9.0**	<1.0	**22.0**	<1.0	NA
RW3	05/20/98		**160.0**	**9.3**	<1.0	**31.0**	<1.0	NA
RW3	05/20/98	DUP	**160.0**	**9.8**	<1.0	**26.0**	<1.0	NA
RW3	08/27/98		**130.0**	**8.8**	<1.0	**28.0**	<1.0	NA
RW3	08/27/98	DUP	**130.0**	**8.6**	<1.0	**25.0**	<1.0	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
RW3	10/23/98		120.0	8.7	<1.0	48.0	<1.0	NA
RW3	10/23/98	DUP	130.0	9.2	<1.0	37.0	<1.0	NA
RW3	03/25/99		160.0	9.2	<1.0	44.0	<1.0	NA
RW3	03/25/99	DUP	180.0	9.4	<1.0	50.0	<1.0	NA
RW3	05/13/99		130.0	8.4	<1.0	46.0	<1.0	NA
RW3	05/13/99	DUP	140.0	8.8	<1.0	43.0	<1.0	NA
RW3	09/08/99		99.0	8.3	<1.0	52.0	<1.0	NA
RW3	09/08/99	DUP	98.0	8.7	<1.0	54.0	<1.0	NA
RW3	10/27/99		81.0	7.7	<1.0	33.0	<1.0	NA
RW3	10/27/99	DUP	94.0	8.3	<1.0	41.0	<1.0	NA
RW3	03/15/00		96.0	7.4	<1.0	44.0	<1.0	NA
RW3	03/15/00	DUP	<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW3	06/15/00		49.0	5.5	NA	27.0	NA	NA
RW3	06/15/00	DUP	52.0	5.5	NA	29.0	NA	NA
RW3	09/19/00		53.0	5.7	NA	38.0	<0.50	NA
RW3	09/19/00	DUP	49.0	5.2	NA	37.0	<0.50	NA
RW3	12/26/00		63.0	6.5	NA	34.0	<0.50	NA
RW3	12/26/00	DUP	59.0	6.4	NA	38.0	<0.50	NA
RW3	03/23/01		51.0	5.2	NA	30.0	<0.50	NA
RW3	05/22/01		54.0	4.2	NA	25.0	<0.50	NA
RW3	05/22/01	DUP	54.0	4.1	NA	24.0	<0.50	NA
RW3	09/12/01		25.0	3.9	NA	20.0	0.77	NA
RW3	09/12/01	DUP	31.0	4.0	NA	20.0	0.75	NA
RW3	10/12/01		23.0	4.1	0.7	19.0	0.77	NA
RW3	10/12/01	DUP	23.0	4.0	0.7	18.0	0.77	NA
RW3	01/31/02		27.0	3.6	<0.50	22.0	<0.50	NA
RW3	01/31/02	DUP	34.0	3.7	<0.50	23.0	<0.50	NA
RW3	04/03/02		25.0	3.7	NA	22.0	<0.50	NA
RW3	04/03/02	DUP	26.0	3.9	NA	23.0	<0.50	NA
RW3	07/25/02		19.0	3.1	NA	28.0	<0.50	NA
RW3	07/25/02	DUP	19.0	3.1	NA	29.0	<0.50	NA
RW3	10/16/02		20.0	4.2	NA	32.0	<0.50	NA
RW3	01/30/03		22.0	4.6	NA	45.0	<0.50	NA
RW3	05/16/03		32.0	4.8	<1.0	25.0	<1.0	<1.0
RW3	08/18/03	J	15.0	2.9	NA	15.0	<1.0	<1.0
RW3	10/16/03		19.0	3.9	NA	22.0	<1.0	<1.0
RW3	03/10/04		16.0	3.6	NA	19.0	>0.30<	>0.32<
RW3	05/17/04		19.0	3.8	NA	17.0	>0.32<	<0.25
RW3	10/18/04		12.0	2.6	<1.0	15.0	<1.0	<1.0
RW3	04/26/05		14	2.1	NA	5.5	<1.0	<1.0
RW3	10/24/05	*	8.6	1.5	<1.0	2.6	<1.0	<0.18
RW3	04/25/06		7.0	1.5	NA	5.4	<1.0	<0.18
RW3	10/09/06		7.4	2.2	<1.0	10	<1.0	0.19
RW3	04/11/07		12	3.1	<1.0	7	<1.0	0.19
RW4	05/07/96		1.2	1.3	<1.0	1.5	<1.0	NA
RW4	05/16/96		1.3	1.7	<1.0	1.9	<1.0	NA
RW4	05/22/96		1.3	1.7	<1.0	1.9	<1.0	NA
RW4	35220.00		1.3	1.8	<1.0	2.4	<1.0	NA
RW4	10/29/96		3.1	2.1	<1.0	7	<1.0	NA
RW4	10/29/96		2.5	2	<1.0	6.9	<1.0	NA
RW4	02/18/97		2.2	1.1	<1.0	1.6	<1.0	NA
RW4	02/18/97		2.0	1.1	<1.0	1.6	<1.0	NA
RW4	06/09/97		2.1	<1.0	<1.0	1.2	<1.0	NA
RW4	08/26/97		1.8	<1.0	<1.0	1.1	<1.0	NA
RW4	11/18/97		1.1	<1.0	<1.0	<1.0	<1.0	NA
RW4	03/19/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW4	05/20/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
RW4	08/27/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW4	10/23/98		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW4	05/20/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW4	10/27/99		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW4	09/19/00		<0.50	<0.50	NA	<0.50	<0.50	NA
RW4	09/12/01		<0.50	<0.50	NA	0.63	<0.50	NA
RW4	10/17/02		<0.50	<0.50	NA	<0.50	<0.50	NA
RW4	03/10/04		<0.19	>0.11<	NA	<0.10	<0.14	<0.25
RW4	10/27/05	*	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
RW4	10/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
RW5	05/07/96		68.0	19.0	<1.0	11.0	1.1	NA
RW5	05/16/96		130.0	20.0	<1.0	8.8	<1.0	NA
RW5	05/22/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA
RW5	06/04/96		95.0	21.0	<1.0	8.6	<1.0	NA
RW5	10/29/96		340.0	20.0	<1.0	9.7	<1.0	NA
RW5	02/18/97		130.0	21.0	<1.0	11.0	<1.0	NA
RW5	06/09/97		240.0	24.0	<1.0	19.0	<1.0	NA
RW5	08/26/97		210.0	25.0	<1.0	23.0	<1.0	NA
RW5	11/18/97		210.0	21.0	<1.0	17.0	<1.0	NA
RW5	03/27/98		240.0	28.0	<1.0	18.0	<1.0	NA
RW5	05/20/98		80.0	11.0	<1.0	7.7	<1.0	NA
RW5	08/27/98		220.0	29.0	<1.0	16.0	<1.0	NA
RW5	10/23/98		200.0	28.0	<1.0	13.0	<1.0	NA
RW5	03/25/99		190.0	21.0	<1.0	9.2	<1.0	NA
RW5	05/13/99		190.0	23.0	<1.0	10.0	<1.0	NA
RW5	09/08/99		210.0	25.0	<1.0	9.4	<1.0	NA
RW5	10/27/99		220.0	28.0	<1.0	9.7	<1.0	NA
RW5	03/15/00		150.0	21.0	<1.0	8.4	<1.0	NA
RW5	06/15/00		120.0	18.0	NA	6.5	NA	NA
RW5	09/19/00		74.0	18.0	NA	6.5	0.59	NA
RW5	12/26/00		120.0	20.0	NA	6.0	<0.50	NA
RW5	03/23/01		160.0	17.0	NA	6.3	0.82	NA
RW5	05/22/01		160.0	20.0	NA	6.4	<0.50	NA
RW5	09/12/01		120.0	20.0	NA	4.8	0.83	NA
RW5	10/12/01		85.0	24.0	0.7	6.5	0.99	NA
RW5	01/31/02		67.0	16.0	<0.50	5.7	<0.50	NA
RW5	04/03/02		95.0	22.0	NA	8.1	1	NA
RW5	07/25/02		79.0	21.0	NA	7.9	<0.50	NA
RW5	10/16/02		84.0	23.0	NA	8.4	<0.50	NA
RW5	01/30/03		70.0	19.0	NA	7.7	0.84	NA
RW5	05/16/03		67.0	22.0	<1.0	6.6	1.2	<1.0
RW5	08/18/03	J	83.0	31.0	NA	7.5	1.2	<1.0
RW5	10/16/03		79.0	30.0	NA	7.0	1.0	<1.0
RW5	10/16/03	MS	83.0	30.0	NA	6.9	1.1	<1.0
RW5	10/16/03	MSD	82.0	29.0	NA	7.1	1.2	<1.0
RW5	03/10/04		46.0	24.0	NA	5.2	1.0	<0.25
RW5	05/17/04		52.0	24.0	NA	6.2	1.3	<0.25
RW5	10/18/04		48	22	<1.0	4.7	<1.0	<1.0
RW5	04/26/05		46	25	NA	4.6	1.0	<1.0
RW5	10/24/05	*	53.0	34.0	<1.0	4.7	<1.0	<0.18
RW5	04/25/06		47	41	NA	5.7	1.1	<0.18
RW5	10/09/06		41	46	<1.0	5.0	1.1	<0.18
RW5	04/11/07		off line	off line	off line	off line	off line	off line
RW6	05/07/96		6.3	14.0	<1.0	5.6	6.3	NA
RW6	05/16/96		130.0	21.0	<1.0	8.9	<1.0	NA
RW6	05/22/96		<1.0	<1.0	<1.0	<1.0	<1.0	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
RW6	06/04/96		16.0	20.0	<1.0	8.2	4.3	NA
RW6	10/29/96		86.0	29.0	<1.0	31.0	3.4	NA
RW6	02/18/97		58.0	23.0	<1.0	20.0	2.7	NA
RW6	06/09/97		120.0	21.0	<1.0	16.0	1.6	NA
RW6	08/26/97		100.0	22.0	<1.0	16.0	2.2	NA
RW6	11/18/97		89.0	19.0	<1.0	12.0	1.7	NA
RW6	03/19/98		60.0	16.0	<1.0	<1.0	1.6	NA
RW6	05/20/98		47.0	13.0	<1.0	6.2	1.4	NA
RW6	08/27/98		83.0	14.0	<1.0	6.5	1.3	NA
RW6	10/23/98		52.0	13.0	<1.0	5.1	1.3	NA
RW6	03/25/99		54.0	12.0	<1.0	4.6	1.4	NA
RW6	05/13/99		41.0	10.0	<1.0	3.6	1.4	NA
RW6	09/08/99		42.0	11.0	<1.0	4.8	1.4	NA
RW6	10/27/99		44.0	10.0	<1.0	3.9	1.1	NA
RW6	03/15/00		20.0	7.0	<1.0	2.5	1.0	NA
RW6	06/15/00		20.0	5.8	NA	1.8	NA	NA
RW6	09/19/00		20.0	6.0	NA	2.2	0.76	NA
RW6	12/26/00		19.0	7.1	NA	2.0	0.51	NA
RW6	03/23/01		13.0	5.6	NA	1.9	0.85	NA
RW6	05/22/01		14.0	5.5	NA	1.7	0.64	NA
RW6	09/12/01		13.0	6.3	NA	2.1	1.1	NA
RW6	10/12/01		12.0	6.4	<0.50	2.1	1.0	NA
RW6	01/31/02		12.0	5.1	<0.50	1.6	0.58	NA
RW6	04/03/02		9.5	5.2	NA	1.8	0.77	NA
RW6	07/25/02		9.9	5.0	NA	1.5	<0.50	NA
RW6	10/16/02		9.5	5.0	NA	1.5	<0.50	NA
RW6	01/30/03		6.8	4.0	NA	1.9	0.87	NA
RW6	05/16/03		5.0	3.1	<1.0	1.0	<1.0	<1.0
RW6	08/18/03	J	7.4	4.0	NA	1.2	<1.0	<1.0
RW6	10/16/03		6.4	4.1	NA	1.3	<1.0	<1.0
RW6	03/10/04		4.3	3.3	NA	1.2	>0.64<	>0.76<
RW6	05/17/04		5.1	3.5	NA	1.3	>0.62<	<0.25
RW6	10/18/04		4.1	3.1	<1.0	1.1	<1.0	<1.0
RW6	04/26/05		4.5	3.1	NA	1.0	<1.0	<1.0
RW6	10/24/05		5.6	3.8	<1.0	1.3	<1.0	<0.18
RW6	04/25/06		4.5	3.4	NA	1.1	<1.0	<0.18
RW6	10/09/06		5.0	3.2	<1.0	1.1	<1.0	<0.18
RW6	04/11/07	*	2.7	2.3	<1.0	1.1	<1.0	<0.18
RW7	11/20/95		25.0	4.0	<1.0	4.2	<1.0	NA
RW7	05/07/96		91.0	9.8	<1.0	5.9	<1.0	NA
RW7	05/16/96		100.0	9.9	<1.0	4.4	<1.0	NA
RW7	05/22/96		110.0	9.7	<1.0	4.1	<1.0	NA
RW7	06/04/96		110.0	10.0	<1.0	4.4	<1.0	NA
RW7	10/29/96		130.0	12.0	<1.0	<1.0	<1.0	NA
RW7	02/18/97		91.0	11.0	<1.0	3.5	<1.0	NA
RW7	06/09/97		100.0	10.0	<1.0	3.6	<1.0	NA
RW7	08/26/97		86.0	9.8	<1.0	4.2	<1.0	NA
RW7	03/19/98		70.0	<1.0	<1.0	6.7	<1.0	NA
RW7	05/20/98		55.0	7.3	<1.0	2.7	<1.0	NA
RW7	08/27/98		70.0	8.8	<1.0	4.6	<1.0	NA
RW7	10/23/98		67.0	10.0	<1.0	5.3	<1.0	NA
RW7	03/25/99		40.0	7.6	<1.0	2.6	<1.0	NA
RW7	05/13/99		40.0	7.7	<1.0	2.4	<1.0	NA
RW7	09/08/99		40.0	9.3	<1.0	3.5	<1.0	NA
RW7	10/27/99		36.0	8.8	<1.0	<1.0	<1.0	NA
RW7	03/15/00		33.0	7.4	<1.0	2.5	<1.0	NA
RW7	06/15/00		33.0	6.5	NA	2.1	NA	NA

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
RW7	09/19/00		31.0	6.5	NA	2.5	<0.50	NA
RW7	12/26/00		40.0	7.7	NA	2.2	<0.50	NA
RW7	03/23/01		30.0	7.1	NA	2.2	<0.50	NA
RW7	05/22/01		38.0	7.1	NA	2.6	<0.50	NA
RW7	09/12/01		33.0	7.6	NA	2.5	0.64	NA
RW7	10/12/01		23.0	8.1	<0.50	2.5	0.66	NA
RW7	01/31/02		23.0	6.7	<0.50	2.2	<0.50	NA
RW7	04/03/02		26.0	8.3	NA	2.8	<0.50	NA
RW7	07/25/02		21.0	6.5	NA	2.5	<0.50	NA
RW7	10/16/02		22.0	7.4	NA	2.2	<0.50	NA
RW7	01/30/03		20.0	5.9	NA	2.3	<0.50	NA
RW7	01/30/03	DUP	20.0	6.2	NA	2.5	<0.50	NA
RW7	01/30/03	DUP	20.0	6.0	NA	2.4	<0.50	NA
RW7	05/16/03		19.0	6.0	<1.0	1.9	<1.0	<1.0
RW7	08/18/03	J	23.0	7.4	NA	2.9	<1.0	<1.0
RW7	10/16/03		21.0	7.4	NA	2.3	<1.0	<1.0
RW7	03/10/04		14.0	6.5	NA	1.9	>0.18<	>0.99<
RW7	05/17/04		16.0	6.7	NA	2.4	>0.22<	<0.25
RW7	10/18/04		13.0	5.3	<1.0	1.7	<1.0	<1.0
RW7	04/26/05		13	7.2	NA	1.4	<1.0	<1.0
RW7	10/24/05	*	18	10	<1.0	1.7	<1.0	<0.18
RW7	04/25/06		18	13	NA	2.0	<1.0	<0.18
RW7	10/09/06		23	13	<1.0	1.8	<1.0	<0.18
RW7	04/11/07		8	4	<1.0	4.6	<1.0	<0.18
RW7	05/22/07		21	11	<1.0	1.9	<1.0	<0.18
RW7WH	11/18/97		55.0	4.8	<1.0	1.5	<1.0	NA
RW8	09/21/99		86.0	15.0	<1.0	4	<1.0	NA
RW8	09/21/99	DUP	95.0	12.0	<1.0	3.4	<1.0	NA
RW8	09/27/99		55.0	10.0	<1.0	3	<1.0	NA
RW8	03/15/00		26.0	6.3	<1.0	2.4	<1.0	NA
RW8	06/15/00		23.0	7.4	NA	2.2	NA	NA
RW8	09/19/00		30.0	8.7	NA	3.4	<0.50	NA
RW8	12/26/00		40.0	9.8	NA	2.9	<0.50	NA
RW8	03/23/01		23.0	8.2	NA	2.2	<0.50	NA
RW8	05/22/01		23.0	8.6	NA	2.2	<0.50	NA
RW8	09/12/01		20.0	7.8	NA	2.3	0.6	NA
RW8	10/12/01		19.0	9.2	<0.50	3	0.62	NA
RW8	01/31/02		14.0	6.3	<0.50	2.4	<0.50	NA
RW8	04/03/02		14.0	8.0	NA	2	<0.50	NA
RW8	07/25/02		13.0	6.8	NA	2.4	<0.50	NA
RW8	10/16/02		16.0	9.7	NA	3.6	<0.50	NA
RW8	10/16/02	DUP	20.0	10.0	NA	3.9	<0.50	NA
RW8	01/30/03		12.0	4.8	NA	3.4	<0.50	NA
RW8	05/16/03		7.6	5.0	<1.0	1.6	<1.0	<1.0
RW8	08/18/03	J	14.0	8.6	NA	3.5	<1.0	<1.0
RW8	10/16/03		15.0	8.6	NA	3.6	<1.0	<1.0
RW8	03/10/04		7.7	6.5	NA	3.2	>0.23<	<0.25
RW8	05/17/04		9.0	6.6	NA	3.9	>0.19<	<0.25
RW8	05/17/04	DUP	16.0	7.0	NA	4.6	>0.31<	>0.36<
RW8	10/18/04		8.2	5.1	<1.0	3.6	<1.0	<1.0
RW8	04/26/05		6.4	4.4	NA	2.6	<1.0	<1.0
RW8	10/24/05	*	9.0	6.3	<1.0	4.6	<1.0	<0.18
RW8	04/25/06		8.9	7.2	NA	6.1	<1.0	<0.18
RW8	10/09/06		9.9	7.8	<1.0	7.5	<1.0	<0.18
RW8	04/11/07		off line	off line	off line	off line	off line	off line

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Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

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RW9	09/21/99		9.8	3.3	<1.0	1.4	<1.0	NA
RW9	03/15/00		9.7	3.4	<1.0	2.8	<1.0	NA
RW9	06/15/00		14.0	4	NA	2.7	NA	NA
RW9	09/19/00		16.0	4.3	NA	3	<0.50	NA
RW9	12/26/00		17.0	5.3	NA	3.1	<0.50	NA
RW9	03/23/01		13.0	4.5	NA	3.5	<0.50	NA
RW9	05/22/01		16.0	5.1	NA	3.1	<0.50	NA
RW9	09/12/01		13.0	4.9	NA	2.4	0.59	NA
RW9	10/12/01		15.0	6.4	0.72	2.7	0.61	NA
RW9	01/31/02		13.0	4.7	<0.50	2.5	<0.50	NA
RW9	04/03/02		13.0	5.3	NA	3.7	<0.50	NA
RW9	07/25/02		12.0	4.8	NA	2.8	<0.50	NA
RW9	10/16/02		15.0	5.9	NA	2.9	<0.50	NA
RW9	01/30/03		13.0	7.7	NA	3.5	<0.50	NA
RW9	05/16/03		8.2	3.6	<1.0	2.9	<1.0	<1.0
RW9	08/18/03		off line	off line	off line	off line	off line	off line
RW9	10/16/03		21.0	9.8	NA	4.0	<1.0	<1.0
RW9	10/16/03	DUP	22.0	9.2	NA	3.6	<1.0	<1.0
RW9	03/10/04		9.3	5.1	NA	4.0	>0.29<	>0.60<
RW9	05/17/04		13.0	<0.073	NA	5.0	>0.33<	<0.25
RW9	10/18/04		11.0	5.5	<1.0	4.9	<1.0	<1.0
RW9	04/26/05		7.5	3.8	NA	4.2	<1.0	<1.0
RW9	10/24/05	*	16	10	<1.0	11	<1.0	<0.18
RW9	04/25/06		15	11	NA	18	<1.0	<0.18
RW9	10/09/06		13	6.3	<1.0	7.5	<1.0	<0.18
RW9	04/11/07	*	7.6	3.5	<1.0	6.3	<1.0	<0.18
Residential Wells								
24233 Riverside Dr. (4)	06/26/06	L	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
15 3rd St. N (7)	12/23/03		22.0	<1.0	NA	<1.0	<1.0	<1.0
15 3rd St. N (7)	06/26/06		35.0	<1.0	<1.0	8.0	<1.0	<0.18
225 6th St. NE (8)	05/17/04		22.0	2.6	NA	1.9	<0.14	<0.25
225 6th St. NE (8)	06/26/06		5.0	<1.0	<1.0	<1.0	<1.0	<0.18
225 6th St. NE (8)	10/09/06		3.9	<1.0	<1.0	<1.0	<1.0	<0.18
225 6th St. NE (8)	04/17/07		3.0	<1.0	<1.0	<1.0	<1.0	<0.18
815 2nd Ave NE (10)	12/23/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
815 2nd Ave NE (10)	06/27/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
125 Todd St. N (14)	12/23/03		45.0	3.3	NA	1.1	<1.0	<1.0
125 Todd St. N (14)	12/23/03	DUP	46.0	3.5	NA	1.1	<1.0	<1.0
24345 Riverside Dr. (15)	06/27/06	L	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
26 4th St. NE (16)	12/23/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
221 6th St. NE (17)	05/17/04		>0.32<	>0.14<	NA	<0.10	<0.14	>0.32<
414 3rd Ave NE (18)	05/17/04		>1.0<	>0.43<	NA	>0.34<	<0.14	>0.33<
414 3rd Ave NE (18)	07/14/04		>0.81<	<0.48	NA	<0.83	<0.89	<0.18
24152 US Hwy 71 (23)	12/15/03	L	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Treatment System								

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
Lead Tk In	01/18/01		47	8.2	--	6.9	<0.50	<1.0
Lead Tk In	03/23/01		79	7.9	--	6.6	<0.50	<1.0
Lead Tk In	05/09/01		37	7.3	<0.50	5.2	<0.50	<1.0
Lead Tk In	09/12/01		35	8.6	--	5	0.72	<1.0
Lead Tk In	10/12/01		27	9.4	<0.50	5.2	0.75	<1.0
Lead Tk In	11/29/01		<2.5	<2.5	--	6	<0.50	<5.0
Lead Tk In	01/31/02		24	8.2	<0.50	5.4	<0.50	<1.0
Lead Tk In	04/03/02		24	9.0	--	6	<0.50	<1.0
Lead Tk In	07/25/02		22	7.7	--	5.4	<0.50	<1.0
Lead Tk In	10/16/02		26	9.5	--	7.5	<0.50	<1.0
Lead Tk In	01/30/03		21	8.0	NA	6.9	0.5	<0.50
Lead Tk In	05/16/03		24	7.9	<1.0	5.2	<1.0	<1.0
Lead Tk In	07/02/03		18	7.0	NA	5.5	<1.0	<1.0
Lead Tk In	09/25/03		25	10	NA	4.9	<1.0	<1.0
Lead Tk In	11/17/03	J	27	11	NA	7.0	<1.0	<1.0
Lead Tk In	01/08/04		20	9.8	NA	5.5	<1.0	<1.0
Lead Tk In	03/10/04		18	8.7	NA	5.1	>0.55<	>0.72<
Lead Tk In	03/10/04	DUP	18	8.7	NA	5.0	>0.54<	<0.25
Lead Tk In	05/17/04		21	9.0	NA	4.9	>0.50<	>0.58<
Lead Tk In	07/20/04		16	7.4	NA	4.0	<0.89	<0.18
Lead Tk In	10/18/04		5.9	4.1	<1.0	4.4	<1.0	<1.0
Lead Tk In	01/04/05		17	8.4	NA	4.5	<1.0	<1.0
Lead Tk In	04/05/05		13	5.9	NA	2.6	<1.0	<1.0
Lead Tk In	07/26/05		16	9.1	NA	3.1	<1.0	<1.0
Lead Tk In	10/24/05		17	9.8	<1.0	3.2	<1.0	<0.18
Lead Tk In	01/09/06		15	11	NA	3.2	<0.89	<0.18
Lead Tk In	04/25/06		15	11	NA	6.7	<1.0	<0.18
Lead Tk In	07/10/06		15	11	<1.0	4.6	<1.0	<0.18
Lead Tk In	10/09/06		15	11	<1.0	5.3	<1.0	<0.18
Lead Tk In	01/30/07		15	11	<1.0	5.9	<1.0	<0.18
Lead Tk In	04/09/07		7	2.7	<1.0	4.9	<1.0	<0.18
Lead Tk Eff	01/14/03		<0.50	<0.50	NA	2.5	<0.50	<0.50
Lead Tk Eff	01/30/03		1.0	0.7	NA	4.0	<0.50	<0.50
Lead Tk Eff	03/19/03		<0.50	<0.50	NA	<0.50	<0.50	<0.50
Lead Tk Eff	04/22/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	05/16/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Lead Tk Eff	06/09/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	07/02/03		<2.0	<1.0	NA	1.3	<1.0	<1.0
Lead Tk Eff	08/18/03	J	<2.0	<1.0	NA	1.4	<1.0	<1.0
Lead Tk Eff	08/18/03	DUP, J	<2.0	<1.0	NA	1.4	<1.0	<1.0
Lead Tk Eff	09/25/03		<2.0	<1.0	NA	1.5	<1.0	<1.0
Lead Tk Eff	09/25/03	DUP	<2.0	<1.0	NA	1.5	<1.0	<1.0
Lead Tk Eff	10/16/03		<1.0	<1.0	NA	2.1	<1.0	<1.0
Lead Tk Eff	10/16/03	DUP	<1.0	<1.0	NA	1.9	<1.0	<1.0
Lead Tk Eff	11/17/03	J	<2.0	<1.0	NA	2.4	<1.0	<1.0
Lead Tk Eff	11/17/03	DUP, J	<2.0	<1.0	NA	2.4	<1.0	<1.0
Lead Tk Eff	12/08/03	J	<2.0	<1.0	NA	2.3	<1.0	<1.0
Lead Tk Eff	01/08/04		<2.0	<1.0	NA	2.1	<1.0	<1.0
Lead Tk Eff	01/08/04	DUP	<2.0	<1.0	NA	2.0	<1.0	<1.0
Lead Tk Eff	02/18/04		<2.0	<1.0	NA	2.5	<1.0	<1.0
Lead Tk Eff	03/10/04	J	>0.80<	>0.91<	NA	3.0	<0.14	>0.35<
Lead Tk Eff	04/23/04	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	05/17/04		<0.19	>0.07<	NA	>0.11<	<0.14	<0.25
Lead Tk Eff	06/21/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Lead Tk Eff	07/20/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Lead Tk Eff	08/18/04		<0.45	<0.48	NA	>0.84<	<0.89	<0.18
Lead Tk Eff	8/18/004	DUP	<0.45	<0.48	NA	<0.83	<0.89	<0.18

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
Lead Tk Eff	09/15/04		4.7	<0.48	NA	3.9	<0.89	<0.18
Lead Tk Eff	10/18/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Lead Tk Eff	11/18/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	11/18/04	DUP	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	12/14/04		<1.0	<1.0	NA	1.2	<1.0	<1.0
Lead Tk Eff	12/14/04	DUP	<1.0	<1.0	NA	1.2	<1.0	<1.0
Lead Tk Eff	01/04/05		<1.0	<1.0	NA	1.4	<1.0	<1.0
Lead Tk Eff	01/04/05	DUP	<1.0	<1.0	NA	1.3	<1.0	<1.0
Lead Tk Eff	02/23/05		<1.0	<1.0	NA	1.5	<1.0	<1.0
Lead Tk Eff	02/23/05	DUP	<1.0	<1.0	NA	1.7	<1.0	<1.0
Lead Tk Eff	03/14/05		<1.0	<1.0	NA	1.8	<1.0	<1.0
Lead Tk Eff	03/14/05	DUP	<1.0	<1.0	NA	1.7	<1.0	<1.0
Lead Tk Eff	04/05/05		<1.0	<1.0	NA	1.4	<1.0	<1.0
Lead Tk Eff	04/05/05	DUP	<1.0	<1.0	NA	1.3	<1.0	<1.0
Lead Tk Eff	04/26/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Lead Tk Eff	05/31/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	06/20/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	07/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	08/23/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lead Tk Eff	09/19/05		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Lead Tk Eff	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lead Tk Eff	11/10/05		<1.0	<1.0	NA	1.0	<1.0	<1.0
Lead Tk Eff	12/29/05		<1.0	<1.0	NA	1.1	<1.0	<0.18
Lead Tk Eff	01/09/06	J	<0.45	0.63	NA	1.3	<0.89	<0.18
Lead Tk Eff	02/15/06		<1.0	<1.0	NA	1.4	<1.0	<0.18
Lead Tk Eff	03/22/06		<1.0	1.0	NA	1.5	<1.0	<0.18
Lead Tk Eff	04/25/06		1.3	1.6	NA	2.5	<1.0	<0.18
Lead Tk Eff	05/22/06		<1.0	1.3	<1.0	2.5	<1.0	<0.18
Lead Tk Eff	06/21/06		1.1	1.4	<1.0	2.7	<1.0	<0.18
Lead Tk Eff	07/10/06		1.1	1.5	<1.0	2.9	<1.0	<0.18
Lead Tk Eff	08/30/06		1.3	2.2	<1.0	3.6	<1.0	<0.18
Lead Tk Eff	09/25/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lead Tk Eff	10/09/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lead Tk Eff	12/11/06		1.4	1.0	<1.0	1.2	<1.0	<0.18
Lead Tk Eff	01/30/07		<1.0	<1.0	<1.0	1.3	<1.0	<0.18
Lead Tk Eff	02/19/07		<1.0	<1.0	<1.0	1.1	<1.0	<0.18
Lead Tk Eff	03/12/07		<1.0	<1.0	<1.0	1.1	<1.0	<0.18
Lead Tk Eff	04/09/07		<1.0	<1.0	<1.0	1.1	<1.0	<0.18
Lead Tk Eff	05/14/07		<1.0	<1.0	<1.0	1.2	<1.0	<0.18
Lag Tk Eff	01/30/03		<0.50	<0.50	NA	<0.50	<0.50	<0.50
Lag Tk Eff	05/16/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Lag Tk Eff	07/02/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	09/25/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	11/17/03	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	01/08/04		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	03/10/04		<0.19	<0.073	NA	<0.10	<0.14	>0.94<
Lag Tk Eff	03/10/04	DUP	<0.19	<0.073	NA	<0.10	<0.14	<0.25
Lag Tk Eff	04/23/04	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	05/17/04		<0.19	<0.073	NA	<0.10	<0.14	<0.25
Lag Tk Eff	05/17/04	DUP	<0.19	<0.073	NA	<0.10	<0.14	>0.31<
Lag Tk Eff	07/20/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Lag Tk Eff	10/18/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Lag Tk Eff	01/04/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	04/05/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	04/26/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

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Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
Lag Tk Eff	07/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Lag Tk Eff	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lag Tk Eff	01/09/06		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Lag Tk Eff	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Lag Tk Eff	07/10/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lag Tk Eff	09/14/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lag Tk Eff	10/09/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lag Tk Eff	01/30/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Lag Tk Eff	04/09/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	05/13/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	08/18/03	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	09/25/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	11/17/03	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	12/08/03	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	12/23/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	01/08/04		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	02/18/04		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	03/10/04		<0.19	<0.073	NA	<0.10	<0.14	**>0.51<**
Trip Blank	04/23/04	J	<2.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	05/17/04		<0.19	<0.073	NA	<0.10	<0.14	**>0.35<**
Trip Blank	06/21/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Trip Blank	07/14/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Trip Blank	07/21/04		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Trip Blank	08/18/04		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Trip Blank	10/18/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	10/19/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	11/18/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	12/14/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	01/04/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	02/23/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	03/14/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	04/05/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	04/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	05/31/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	06/20/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	07/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	08/23/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	09/19/05		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Trip Blank	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	11/10/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	12/29/05		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Trip Blank	01/09/06		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Trip Blank	02/15/06		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Trip Blank	03/22/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Trip Blank	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Trip Blank	05/05/06		<1.0	<1.0	NA	<1.0	<1.0	<0.40
Trip Blank	05/22/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	06/21/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	06/27/06		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trip Blank	07/11/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	07/25/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	08/30/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	09/14/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	09/25/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	10/11/06		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	12/11/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18

Note: Data presented prior to 4/22/03 was provided by Barr Engineering Inc.
Terracon can not validate the data accuracy prior to 4/22/03.

Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
Trip Blank	01/30/07	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	02/16/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	02/19/07	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	03/12/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	04/12/07	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	04/17/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	05/14/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Trip Blank	05/23/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Method Blank	04/24/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	05/19/03		<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Method Blank	06/10/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	07/02/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	07/14/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	08/18/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	09/25/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	11/17/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	12/08/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	12/23/03		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	01/08/04		<2.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	02/18/04		<2.0	<1.0	NA	<1.0	<1.0	**>0.42<**
Method Blank	03/10/04		<0.19	<0.073	NA	<0.10	<0.14	<1.0
Method Blank	04/23/04		<2.0	<1.0	NA	<1.0	<1.0	<0.25
Method Blank	05/17/04		<0.19	<0.073	NA	**>0.12<**	<0.14	<1.0
Method Blank	07/14/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	08/18/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	09/15/04		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	01/04/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0

Note: Data presented prior to 4/22/03 was provided by Barr Engineering Inc.
Terracon can not validate the data accuracy prior to 4/22/03.

Groundwater Analytical Results
Long Prairie Groundwater Contamination Superfund Site
Long Prairie, Minnesota

Location	Date	Note	Tetrachloro-ethene (ug/L)	Trichloro-ethene (ug/L)	1,1-Dichloro-ethene (ug/L)	1,2- Dichloro-ethene,cis (ug/L)	1,2- Dichloro-ethene, trans (ug/L)	Vinyl Chloride (ug/L)
Method Blank	03/04/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	03/14/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Method Blank	04/05/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	04/26/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Method Blank	05/31/05		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Method Blank	07/26/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	08/23/05		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Method Blank	09/19/05		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	11/01/05		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	11/01/05		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	11/01/05		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	11/10/05		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	11/15/05		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	12/29/05		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	01/09/06		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	03/22/06		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	04/25/06		<0.45	<0.48	NA	<0.83	<0.89	<0.18
Method Blank	05/22/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	06/21/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	07/11/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	07/25/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	08/30/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	09/14/06		<0.45	<0.48	<0.57	<0.83	<0.89	<0.18
Method Blank	09/25/06		<1	<1	<1	<1	<1	<1
Method Blank	10/09/06		<1	<1	<1	<1	<1	<1
Method Blank	10/10/06		<1	<1	<1	<1	<1	<1
Method Blank	10/11/06		<1	<1	<1	<1	<1	<1
Method Blank	10/11/06		<1	<1	<1	<1	<1	<1
Method Blank	02/06/07		<1	<1	<1	<1	<1	<1
Method Blank	12/11/06		<1	<1	<1	<1	<1	<1
Equipment Blank	10/16/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Equipment Blank	10/17/03		<1.0	<1.0	NA	<1.0	<1.0	<1.0
Equipment Blank - 1	10/19/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Equipment Blank - 2	10/20/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Equipment Blank - 3	10/21/04		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Equipment Blank	04/26/05		**6.6**	<1.0	NA	<1.0	<1.0	<1.0
Equipment Blank - 1	10/24/05		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank - 2	10/25/05		**1.0**	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank - 3	10/26/05	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank	04/25/06		<1.0	<1.0	NA	<1.0	<1.0	<0.18
Equipment Blank - 1	10/10/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank - 2	10/11/06	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank	04/11/07	*	<1.0	<1.0	<1.0	<1.0	<1.0	<0.18
Equipment Blank	05/23/07		<1.0	<1.0	<1.0	<1.0	<1.0	<0.18

NA = Not Analyzed

DUP = Duplicate Analysis

* = Other compounds detected, see analytical report.

> < = The reported concentration is between the LOD and LOQ. The associated numerical value is the approximate concentration.

B = [Vinyl Chloride in the March 2004 analytical report is likely not present because of concentrations found in both the Method and Trip Blanks.]

J = Temperature of cooler when received was greater than guidelines set in MPCA groundwater sampling guidance or holding times were missed Samples results are acceptable however, values will be J-flagged as estimates.

K = Detection limit may be elevated due to the presence of an unrequested analyte.

L = Location outside of map area

Note: Data presented prior to 4/22/03 was provided by Barr Engineering Inc.
Terracon can not validate the data accuracy prior to 4/22/03.

APPENDIX E

Please note that "O&M" is referred to throughout this checklist. At sites where Long-Term Response Actions are in progress, O&M activities may be referred to as "system operations" since these sites are not considered to be in the O&M phase while being remediated under the Superfund program.

Five-Year Review Site Inspection Checklist (Template)

(Working document for site inspection. Information may be completed by hand and attached to the Five-Year Review report as supporting documentation of site status. "N/A" refers to "not applicable.")

I. SITE INFORMATION	
Site name: Long Prairie	**Date of inspection:** June 26, 2007
Location and Region: Long Prairie, MN	**EPA ID:** MND 980904072
Agency, office, or company leading the five-year review: MPCA	**Weather/temperature:** mid 80's (°F)

Remedy Includes: (Check all that apply)

- Landfill cover/containment
- Access controls
- ✓ Institutional controls
- ✓ Groundwater pump and treatment
- Surface water collection and treatment
- Other _____
- Monitored natural attenuation
- ✓ Groundwater containment
- Vertical barrier walls

Attachments: ✓ Inspection team roster ~~attached~~ attend ✓ Site map attached

II. INTERVIEWS (Check all that apply)

1. **O&M site manager** Carol VanNeste (Name) Project Manager (Title) 6/26/07 (Date)
   Interviewed ✓ at site at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

2. **O&M staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed at site at office by phone Phone no. _____
   Problems, suggestions; Report attached _____

3. **Local regulatory authorities and response agencies** (i.e., State and Tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices, etc.) Fill in all that apply.

Agency MPCA
Contact Nile Fellows — Project Lead — 6/26/07 — 651-296-7299
Name — Title — Date — Phone no.
Problems; suggestions; Report attached

Agency MPCA
Contact Barb Gnabasik — Project Hydrogeologist — 6/26/07 — 218-529-6266
Name — Title — Date — Phone no.
Problems; suggestions; Report attached

Agency US EPA
Contact Sheila Sullivan — EPA Regional Project Manager — 6/26/07 — 312-886-5251
Name — Title — Date — Phone no.
Problems; suggestions; Report attached

Agency
Contact
Name — Title — Date — Phone no.
Problems; suggestions; Report attached

4. **Other interviews** (optional) Report attached.

Dave Venekamp City of Long Prairie
Kitty Tepley Todd County Water & Conservation District

III. ON-SITE DOCUMENTS & RECORDS VERIFIED (Check all that apply)

1. **O&M Documents**
   - ✓ O&M manual — ✓ Readily available — ✓ Up to date — N/A
   - ✓ As-built drawings — ✓ Readily available — ✓ Up to date — N/A
   - ✓ Maintenance logs — ✓ Readily available — ✓ Up to date — N/A

   Remarks

2. **Site-Specific Health and Safety Plan** — ✓ Readily available — ✓ Up to date — N/A
   - Contingency plan/emergency response plan — ✓ Readily available — ✓ Up to date — N/A

   Remarks

3. **O&M and OSHA Training Records** — ✓ Readily available — ✓ Up to date — N/A

   Remarks

4. **Permits and Service Agreements**
   - ✓ Air discharge permit — Readily available — Up to date — N/A
   - ✓ Effluent discharge — ✓ Readily available — ✓ Up to date — N/A
   - Waste disposal, POTW — Readily available — Up to date — N/A
   - ✓ Other permits DNR water — ✓ Readily available — ✓ Up to date — N/A

   Remarks appropriations permit

5. **Gas Generation Records** — Readily available — Up to date — ✓ N/A

   Remarks

6. **Settlement Monument Records** — ✓ Readily available — ✓ Up to date — N/A

   Remarks

7. **Groundwater Monitoring Records** — ✓ Readily available — ✓ Up to date — N/A

   Remarks

8. **Leachate Extraction Records** — Readily available — Up to date — ✓ N/A

   Remarks

9. **Discharge Compliance Records**
   - Air — Readily available — Up to date — N/A
   - ✓ Water (effluent) — ✓ Readily available — ✓ Up to date — N/A

   Remarks

10. **Daily Access/Security Logs** — Readily available — Up to date — ✓ N/A

    Remarks

IV. O&M COSTS

1. **O&M Organization**
   State in-house ✓Contractor for State
   PRP in-house Contractor for PRP
   Federal Facility in-house Contractor for Federal Facility
   Other_____

2. **O&M Cost Records**
   ✓Readily available ✓Up to date
   Funding mechanism/agreement in place
   Original O&M cost estimate $300,000 /yr ✓Breakdown attached

   Total annual cost by year for review period if available

   From_____ To_____ _____ Breakdown attached
   Date Date Total cost
   From_____ To_____ _____ Breakdown attached
   Date Date Total cost
   From_____ To_____ _____ Breakdown attached
   Date Date Total cost
   From_____ To_____ _____ Breakdown attached
   Date Date Total cost
   From_____ To_____ _____ Breakdown attached
   Date Date Total cost

3. **Unanticipated or Unusually High O&M Costs During Review Period**
   Describe costs and reasons: 2007 (fiscal year) O&M high due to the following:
   additional well installation
   well reconditioning
   ground water modeling
   additional reporting

V. ACCESS AND INSTITUTIONAL CONTROLS ✓Applicable N/A

A. Fencing

1. **Fencing damaged** Location shown on site map Gates secured ✓N/A
   Remarks_____

B. Other Access Restrictions

1. **Signs and other security measures** Location shown on site map ✓N/A
   Remarks all wells, pump houses and building locked

C. Institutional Controls (ICs) Not as part of the remedy as per the ROD

1. **Implementation and enforcement**

Site conditions imply ICs not properly implemented	Yes	No	N/A
Site conditions imply ICs not being fully enforced	Yes	No	N/A

Type of monitoring (*e.g.*, self-reporting, drive by) _____
Frequency _____
Responsible party/agency _____
Contact _____ _____ _____ _____
Name Title Date Phone no.

Reporting is up-to-date	Yes	No	N/A
Reports are verified by the lead agency	Yes	No	N/A
Specific requirements in deed or decision documents have been met	Yes	No	N/A
Violations have been reported	Yes	No	N/A

Other problems or suggestions: Report attached

2. **Adequacy** ICs are adequate ICs are inadequate N/A
Remarks _____

D. General

1. **Vandalism/trespassing** Location shown on site map ✓No vandalism evident
Remarks _____

2. **Land use changes on site** ✓N/A
Remarks _____

3. **Land use changes off site** ✓N/A
Remarks _____

VI. GENERAL SITE CONDITIONS

A. Roads Applicable N/A

1. **Roads damaged** Location shown on site map Roads adequate ✓N/A
Remarks _____

B. Other Site Conditions

Remarks no damaged wells

VII. LANDFILL COVERS Applicable ✓N/A

A. Landfill Surface

1. **Settlement** (Low spots) Location shown on site map Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Cracks** Location shown on site map Cracking not evident
   Lengths_____ Widths_____ Depths_____
   Remarks_____

3. **Erosion** Location shown on site map Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Holes** Location shown on site map Holes not evident
   Areal extent_____ Depth_____
   Remarks_____

5. **Vegetative Cover** Grass Cover properly established No signs of stress
   Trees/Shrubs (indicate size and locations on a diagram)
   Remarks_____

6. **Alternative Cover (armored rock, concrete, etc.)** N/A
   Remarks_____

7. **Bulges** Location shown on site map Bulges not evident
   Areal extent_____ Height_____
   Remarks_____

8. **Wet Areas/Water Damage** — Wet areas/water damage not evident
   - Wet areas — Location shown on site map — Areal extent_____
   - Ponding — Location shown on site map — Areal extent_____
   - Seeps — Location shown on site map — Areal extent_____
   - Soft subgrade — Location shown on site map — Areal extent_____

   Remarks_____

9. **Slope Instability** — Slides — Location shown on site map — No evidence of slope instability
   Areal extent_____
   Remarks_____

B. Benches — Applicable — N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** — *Location shown on site map* — N/A or okay
   Remarks_____

2. **Bench Breached** — Location shown on site map — N/A or okay
   Remarks_____

3. **Bench Overtopped** — Location shown on site map — N/A or okay
   Remarks_____

C. Letdown Channels — Applicable — N/A

(Channel lined with erosion control mats, riprap, grout bags, or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** — Location shown on site map — No evidence of settlement
   Areal extent_____ Depth_____
   Remarks_____

2. **Material Degradation** — Location shown on site map — No evidence of degradation
   Material type_____ Areal extent_____
   Remarks_____

3. **Erosion** — Location shown on site map — No evidence of erosion
   Areal extent_____ Depth_____
   Remarks_____

4. **Undercutting** Location shown on site map No evidence of undercutting
Areal extent_____ Depth_____
Remarks_____

5. **Obstructions** Type_____ No obstructions
Location shown on site map Areal extent_____
Size_____
Remarks_____

6. **Excessive Vegetative Growth** Type_____
No evidence of excessive growth
Vegetation in channels does not obstruct flow
Location shown on site map Areal extent_____
Remarks_____

D. Cover Penetrations ✓Applicable N/A

1. **Gas Vents** Active Passive
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance
✓N/A
Remarks_____

2. **Gas Monitoring Probes**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance ✓N/A
Remarks_____

3. **Monitoring Wells** (within surface area of landfill)
✓Properly secured/locked ✓Functioning ✓Routinely sampled ✓Good condition
Evidence of leakage at penetration Needs Maintenance N/A
Remarks_____

4. **Leachate Extraction Wells**
Properly secured/locked Functioning Routinely sampled Good condition
Evidence of leakage at penetration Needs Maintenance ✓N/A
Remarks_____

5. **Settlement Monuments** Located Routinely surveyed ✓N/A
Remarks_____

E. Gas Collection and Treatment Applicable ✓N/A

1. **Gas Treatment Facilities**
   Flaring Thermal destruction Collection for reuse
   Good condition Needs Maintenance
   Remarks_____

2. **Gas Collection Wells, Manifolds and Piping**
   Good condition Needs Maintenance
   Remarks_____

3. **Gas Monitoring Facilities** (*e.g.*, gas monitoring of adjacent homes or buildings)
   Good condition Needs Maintenance N/A
   Remarks_____

F. Cover Drainage Layer Applicable ✓N/A

1. **Outlet Pipes Inspected** Functioning N/A
   Remarks_____

2. ***Outlet Rock Inspected*** *Functioning* *N/A*
   Remarks_____

G. Detention/Sedimentation Ponds Applicable ✓N/A

1. **Siltation** Areal extent_____ Depth_____ N/A
   Siltation not evident
   Remarks_____

2. **Erosion** Areal extent_____ Depth_____
   Erosion not evident
   Remarks_____

3. **Outlet Works** Functioning N/A
   Remarks_____

4. **Dam** Functioning N/A
   Remarks_____

H. Retaining Walls Applicable ✓N/A

1. **Deformations** Location shown on site map Deformation not evident
   Horizontal displacement_____ Vertical displacement_____
   Rotational displacement_____
   Remarks_____

2. **Degradation** Location shown on site map Degradation not evident
   Remarks_____

I. Perimeter Ditches/Off-Site Discharge Applicable ✓N/A

1. **Siltation** Location shown on site map Siltation not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Vegetative Growth** Location shown on site map N/A
   Vegetation does not impede flow
   Areal extent_____ Type_____
   Remarks_____

3. **Erosion** Location shown on site map Erosion not evident
   Areal extent_____ Depth_____
   Remarks_____

4. **Discharge Structure** Functioning N/A
   Remarks_____

VIII. VERTICAL BARRIER WALLS Applicable ✓N/A

1. **Settlement** Location shown on site map Settlement not evident
   Areal extent_____ Depth_____
   Remarks_____

2. **Performance Monitoring** Type of monitoring_____
   Performance not monitored
   Frequency_____ Evidence of breaching
   Head differential_____
   Remarks_____

IX. GROUNDWATER/SURFACE WATER REMEDIES ✓Applicable N/A

A. Groundwater Extraction Wells, Pumps, and Pipelines ✓Applicable N/A

1. **Pumps, Wellhead Plumbing, and Electrical**
   ✓Good condition ✓All required wells properly operating Needs Maintenance N/A
   Remarks

2. **Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   ✓Good condition Needs Maintenance
   Remarks

3. **Spare Parts and Equipment**
   ✓Readily available ✓Good condition Requires upgrade Needs to be provided
   Remarks some select parts readily available (in treatment building)

B. Surface Water Collection Structures, Pumps, and Pipelines Applicable ✓N/A

1. **Collection Structures, Pumps, and Electrical**
   Good condition Needs Maintenance
   Remarks

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes, and Other Appurtenances**
   Good condition Needs Maintenance
   Remarks

3. **Spare Parts and Equipment**
   Readily available Good condition Requires upgrade Needs to be provided
   Remarks

C. Treatment System ✓Applicable N/A

1. **Treatment Train** (Check components that apply)
   - Metals removal — Oil/water separation — Bioremediation
   - Air stripping — ✓Carbon adsorbers
   - Filters_____
   - Additive (*e.g.*, chelation agent, flocculent)_____
   - Others_____
   - ✓Good condition — Needs Maintenance
   - ✓Sampling ports properly marked and functional
   - ✓Sampling/maintenance log displayed and up to date
   - ✓Equipment properly identified
   - ✓Quantity of groundwater treated annually ~ 250 gpm / ~ 100,000 gallons per year
   - Quantity of surface water treated annually_____
   - Remarks_____

2. **Electrical Enclosures and Panels** (properly rated and functional)
   - N/A — ✓Good condition — Needs Maintenance
   - Remarks_____

3. **Tanks, Vaults, Storage Vessels**
   - N/A — ✓Good condition — Proper secondary containment — Needs Maintenance
   - Remarks_____

4. **Discharge Structure and Appurtenances**
   - N/A — ✓Good condition — Needs Maintenance
   - Remarks_____

5. **Treatment Building(s)**
   - N/A — ✓Good condition (esp. roof and doorways) — Needs repair
   - ✓Chemicals and equipment properly stored
   - Remarks_____

6. **Monitoring Wells** (pump and treatment remedy)
   - ✓Properly secured/locked — ✓Functioning — ✓Routinely sampled — ✓Good condition
   - ✓All required wells located — Needs Maintenance — N/A
   - Remarks_____

D. Monitoring Data

1. Monitoring Data
   - ✓Is routinely submitted on time — ✓Is of acceptable quality

2. Monitoring data suggests:
   - ✓Groundwater plume is effectively contained — Contaminant concentrations are declining

This is being verified by groundwater modeling.

D. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)
   Properly secured/locked Functioning Routinely sampled Good condition
   All required wells located Needs Maintenance ✓N/A
   Remarks_____

X. OTHER REMEDIES

If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction. The soil system has been removed.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

C. Early Indicators of Potential Remedy Problems

Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.

clean well screens (recovery wells)
Grand water modeling indicated a deep cone of depression at the recovery wells providing groundwater elevations much less than expected. This suggests the screens are plugged and not allowing water to move towards the pump efficiently.

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy.

Pilot testing and ground water modeling to look for optimization potential.

Site Visit Attendees

Carol	Van Neste	Terracon
Barb	Gnabasik	MPCA
Nile	Fellows	MPCA
Sheila	Sullivan	US EPA

Long Prairie Groundwater Contamination Site Five-year Review Inspection

In front of the granular activated carbon treatment plant . The two large carbon vessels can be seen in the background. Standing left to right: Carol Van Neste, Terracon, Inc.; Sheila Su;livan, U.S. EPA; Nile Fellows, MPCA. Not pictured: Barb Gnabasik, MPCA.

In the back lot of 243 Central Street, Long Prairie, looking southeast. Monitoring Well #10 A (MW-10A) is in the foreground surrounded by green bumper posts. Recovery Well 1A (RW-1A) is in the mid ground to the right. Historically, RW-1A produced the highest PCE levels.

Long Prairie Groundwater Contamination Site Five-year Review Inspection

Back lot of 243 Central Street looking North. Recovery Well 1B (RW-1B) is visible in the midground. Also visible under the right-hand bumper post is one of the several abandonned soil vapor extraction piping access pads. The pads were left in place as theya re more durable than pavement patched.

Back lot of 243 Central Street looking East toward RW-1C. Note the piping access pad to the right of RW-1C. The alley way leads to Third Street NE.

Long Prairie Groundwater Contamination Site Five-year Review Inspection

From the back lot of 243 Central Street. An old incinerator of unknown purpose is situated near the PCE source spot.

From the corner of Third Avenue and Todd Street NE, looking North. The nested monitoring wells MW-4A, MW-4B and MW-4Care located at this corner. One of the monitoring wells is obscured by the orange-tipped bumper posts.

Long Prairie Groundwater Contamination Site Five-year Review Inspection

From mid-block between Third and Fourth Street NE, looking North. Todd Street, NE is on the left side. Monitoring wells (MW-21B and MW-21C) are in mid-ground. These wells were installed in .

From along Todd Street looking North to the corner of Todd Street NE and Fourth Ave. NE. Recovery well 7 (RW-7) is on the left side in the back ground and can be seen surrounded by four bumper posts. The City Well 4 (CW-4) pumphouse is a square brick building visible on the right side in the background.

Long Prairie Groundwater Contamination Site Five-year Review Inspection

From near the corner of Fourth Ave., NE and Todd Street, NE looking at the Long Prairie city well pump houses. The closer building formerly housed City Well 5, but was retrofitted to serve as RW-5 after use of CW-5 was discontinued. The CW-4 pump house is located in the background.

Looking North at RW-8 (mid ground). The well is located on the west side of the intersection between Fifth Ave. NE and Todd Street NE.

Long Prairie Groundwater Contamination Site Five-year Review Inspection

Looking North onto RW-9 (mid ground) surrounded by orange bumper poles. MW-16A and MW-16B are in the immediate background. These wells are adjacent to the wetland which is to the immediate north and east of the wells. The Long Prairie River meanders through the wetland.

APPENDIX F

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